S. MacLean

1968 - 1969

Journal:

1968	Barrow, Alaska
	feeding observation tables
	insect samples
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15 May

Eagle Creek, Mile 105 - Steese Highway, Alaska.

Arrived in Fairbanks at 2:00 A.M. tuesday morning, 14 May. Edna left for Barrow with Bobby Fischer this A.M. - since the Barrow airport is under repair and Wien is unsure of flying. Spent the morning in Fairbanks assembling gear - got a series of #2 bands from Dr. West. Departed Fairbanks about 1:00 P.M. I rode in a Fish and Game truck with Bob Weeden's assistant - Jerry McGowan - an M.A. from Missouri. Weeden took his truck, with Sandy Kogl. Saw a lesser yellowlegs in a shallow pond at mile 28. Bird was quite tame, but flew away when I threw a rock. Next stop at a small lake: eared grebes (4), northern phalaropes (4), widgeon, scaup, bufflehead. All along the wet part of the trip - many pintail, bufflehead. 1 ♀ Barrow's goldeneye. Saw a pipit foraging on floating ice which covered one end of a small lake. Many tree sparrows, white-crowns, tree swallows, robins.

Fairbanks is virtually snow-free, with ice still on shaded ponds.

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(15 May) Eagle Creek is, perhaps, 40% exposed. the valley is N-S here, with the camp in an old mining camp along the creek. they only occupy one cabin as cooking hut and headquarters. this is right at timber-line, so most of the study area is above. (Camp is 2700 feet - see map) Spruce go up the valleys, and willows along the stream.

things I forgot: at Eagle Creek Road House, ca. 3 mi. down the Steese, saw an adult golden eagle overhead and a marten running around the camp. On the way up the Highway - ca. mile 86 - saw a moose.

Ate dinner of Moose-burger, then sat around talking until an early rack-time, planning an early start tomorrow.

16 May Eagle Creek - Mile 105 Steese Highway, Alaska

Up at 1:30 .... they mean early around here. the idea is to work the early morning when the ptarmigan are calling and the snow is hard. It was - temp. around 25° when we started at 3:00 A.M.. Spent the first two hours looking for ptarmigan with Weeder's crew on the area S.W. of camp, just across Eagle Creek. Saw lots of tree sparrows, red-polls, occasional white-crown in willows. Robins all over

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(16 May) wherever there is an alder bush or a little spruce. Saw some varied thrushes spaced out and singing ~~along~~ in spruce stands along drainage bottoms. 1 willow ptarmigan on taling pile in Eagle Creek. Many rock ptarmigan spaced out over area.

At 5:00 A.M. sighted a shorebird flying high and rapid. Resigned from the ptarmigan counters and took out after the bird. It landed on a fell-field ca. ½ mile away. When I reached there saw a pair of golden plovers, and, seconds thereafter, a lone surfbird standing quietly looking at me. Bird quickly flew away. Spent the rest of the day, until noon, searching the horse-shoe ridge complex south of camp looking for more surfbirds. Saw a total of 9, assuming no repeats. Also saw a flock of 5 golden plovers. Many laplands longspurs - both in flocks and beginning to disperse. Also horned larks, water pipits in uplands country.

Returned to camp about noon feeling darn tired. Ate dinner, wrote 2 quick letters for Bob to take down to Fairbanks, then to the rack.

Heard snipe today, too. (After-thought.)

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17 May

Eagle Creek, Alaska

Rain began during the night and continued most of the day. Up at 2:00 a.m. for breakfast, but after looking at the rain and fog hanging over the ridges and the soft snow to be crossed, decided against it and went back to bed. The ptarmigan counters went out, but came back after a few hours soaked and exhausted. We all ate lunch and they changed into dry clothes for another try with snow-shoes. I took the truck, planning to go to Eagle Summit. The rain turned to snow immediately above camp, and 2 miles up the road I found 2" of fresh snow and white-out conditions, with no birds to be seen. Around camp birds are singing some - hedro snipe display again - but not too much going on. Saw a ♀ marsh hawk on the road just above camp.

Returned for a while, then set out on snowshoes. Went E. to junction of Eagle and Mastadon Creeks. Left the snowshoes and climbed the slope across the creek, N. of camp. This is mainly ericaceous, with scattered spruce and alder thickets. The Steese Highway runs along the crest of the hill. Lots of Longspurs - both settled birds

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(17 May) and a flock of 60 - mostly ♂♂. Above the road there is a fair amount of Dryas-shale habitat which may support surfbirds, but only Longspurs and horned larks today. Walked about 1 mile up the road until most of the ground was covered with fresh snow, then returned the same route. Saw 3 golden plovers on the hill - all in excellent plumage and looked like ♂♂. Northern shrike in a tall alder. Heard a raven pass over. After dinner (Eagle Creek chile & beans) Jerry spotted a Saye phoebe on the wire just outside of the cabin. By that time the creek was flowing rapidly and noisily. Heard what may have been a wandering tattler just before crawling into the sack.

18 May

Eagle Creek, Alaska

Out at 3:00 A.M. and it was already (still?) above freezing. Took the truck up to Eagle Summit and spent the morning (i.e. until 7:30 A.M.) walking uplands there. After climbing the hill on the SE side of the highway there is extensive flat ridge-top plateau habitat that looks good for surfbirds. This morning it was covered by a thin layer of fresh snow. Longspurs (many) and horned larks (fewer) were carrying on. Walked about 2 miles in from the road - saw 1 surfbird flying over and

(18 May) heard an alarm note. On the way back found a group of surfbirds displaying vigorously. Spent the remainder of the morning watching this, then returned to eat and record it all in notes. New birds of the morning: slate-colored junco, short-eared owl.

After a short sleep went out and climbed hill NE of Mastodon Fork. On the way found fresh moose tracks in the snow very near and headed toward camp. The top of the hill is a very flat plateau about 200 m. in diameter (across), covered by Dryas. Saw no surfbirds there. Not wanting to be skunked after climbing that damn hill, continued on across a saddle toward next ridge - another flat-topped one. Finally found a surfbird displaying beside this one. Located him (it) on the ground and sat and watched for a while. Learned some more. Returned to camp at 3:00.

This afternoon was tropical. Once I was out of the (light) wind had to take off my jacket and heavy shirt. Snow was very soft and disappearing rapidly. Saw the first bumblebee of the season, and a number of wooly catterpillars. New bird: fox sparrow

Washed mesely (!) then ate dinner outside basking in the sun. Just after we

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18 May) Fell asleep a girl came up from Fairbanks with food and a note from Weeden. Had coffee until 9:00, then to bed.

19 May Eagle Creek, Alaska

2:00 a.m. came too darn early today. Talked my self out of getting up, and didn't get into the field until 6:30. Started out fully clothed for the cold. Shed my jacket going up the spur road and my shirt soon thereafter. It was plain hot.

Walked up the highway to Eagle Summit. Saw 6 pectoral sandpipers, several baird sandpipers along the road; 9 caribou at the summit.

Found 1 surfbird N. of the road, then crossed the road and climbed the hill to the south. Watched ½ hour of unintelligable surfbird activity there, and stayed 45 minutes after the birds left to see if they would return. They didn't. Walked back along the ridges trying to find them and didn't see any surfbirds until I found a pair on the SE side of Center Hill. Watched these for a while, then returned to camp. Saw the first wheatear - a displaying ♂.

Returned for dinner and field notes, then the rack for an earlier start tomorrow.

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20 May

Eagle Creek, Alaska

Out at 3:45 a.m. in what looked like another warm day. Left my jacket behind and later regretted it. Walked up the road to Eagle Summit and climbed (now christened) puzzlement hill. Saw and heard no surfbirds. Walked out ridge running NE from the hill and found surfbird activity there. Spent the morning watching this, then returned to puzzlement hill. Still nothing, too cold with no jacket to return via the ridge route, so I walked back on the road watching territory No. of road for surfbirds and counting ptarmigan.

Returned to write some letters, then rode to Miller House to mail these and buy some supplies. this is a roadhouse operated by an amazingly spry old couple - the man is 91 and the woman not far behind. Saw Canada jays there - nothing else new. Drove on up the valley to Central to have our spare repaired. Watched for grouse along the road, but no luck. Returned for dinner and notes.

New bird: tree swallows - seen from Puzzlement Hill. More wheatears displaying. Found a pair of poached ptarmigan along the road just above

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20 May) camp. In the same place - the first nest of the year - a robin nest in a small, branched spruce. Outer cup was about completed, but no lining and no eggs yet.

21 May <u>Eagle Creek, Alaska</u>

the wind came up in the night, and we awoke to Barrow weather - just below freezing and about 20 knots of wind from the East. Slept in... until 5:00 a.M., then went out to Center Hill. Snow was crusted - hard enough to walk on, but slippery. the wind increased as I went up the hill, circling toward the SE. When I got near the top found a cloud spilling over the saddle behind the hill. Looked for the surf birds Jerry saw yesterday, but no luck. Couldn't hear much of anything through my cap, parka hood, and the wind. Nothing was Displaying - don't think I would have learned much even if I found the birds - except how many were associated together. Returned to camp to eat and wait for better weather.

Found Sandy waiting in the cabin, accidentally separated from the other ptarmigan counters. After a while drove up the road to find Jerry and Dale waiting for her. Returned to the cabin. the darn wind

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21 May) never went down so we tried to occupy ourselves cutting and splitting wood and reading. Heard (I think - it fit Weeden's description) a wandering tattler passing the cabin. Saw, for the first definite identification, a savannah sparrow today - I've been reasonably sure of the call earlier.

22 May

Eagle Creek, Alaska

Awoke to find 2" of fresh snow on the ground. Decided to write this day off for productive field work. Pitched my tent next to the cabin to see how it stood up, then piled in the truck and drove to Fairbanks - arriving just after 8:00 a.m.. On the way in saw a number of new birds: pine grosbeak, spruce grouse, red-necked grebe, surf-scoters, horned grebes.

In Fairbanks talked with Bob Weeden and John Hebinge - U.B.C. graduate student working on ptarmigan. Got some 20 ga. shotgun shells and called Max Brewer to have the Uher tape recorder and parabolic reflector sent down from Barrow. Some other errands and we were back on the road. About mile 30 saw a flock of 7 baird sandpipers by the road feeding in a flooded gravel pit. About mile 32 found a surf bird along the road. The bird was very tame, allowing Jerry and Sandy to get a good look at the beast.

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(22 May) Not much else but some wild Alaskan drivers.

Returned to Eagle Creek to find most of the area snow covered and more falling. A quick dinner, and so to bed.

23 May

Eagle Creek, Alaska

Awoke to clearing weather, but still below freezing and the ground snow covered. Set out with the Ptarmigan crew toward Mastodon Dome - first up the (steep and slippery) face of South Hill directly behind camp, then along the ridge. Virtually no bird activity. Once atop the hill the ptarmiganers realized that it would be nigh impossible to get an accurate count of white birds sitting quietly on a snowy background, and headed back towards main study area. I continued on along the ridges to look for surfbirds. Climbed up to the top of Mastodon Dome (4318 ft.). Very quiet - passerines were present, but not singing. Found a pair of snow buntings on the slope of Mastodon Dome. turned back toward North, and finally saw my first surfbird at 0755 (started out at 4:00 A.M.). About this time the sun broke through and it began to warm up. Snow, which was very dry and powdery, began to disappear - more by sublimation than by melting. As the snow disappeared the passerine activity increased, and by mid-morning longspurs

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(23 May) display was quite intense, and horned larks, pipits, and a few wheatears were also displaying. Density of horned larks seems to have increased, and I occasionally see interspecific interactions between larks and longspurs.

At 9:30 saw my first ptarmigan of the day - 2 ♂ rocks in a fierce territorial encounter on the SW face of Center Hill. Otherwise, I heard no display and the birds were in hiding.

Saw pectorals twice today - a very rapid, twisting flight of 4 birds, and a ♂ in full hooting display on the SE side of Center Hill!

Found the 2nd and 3rd (and final) surf birds of the day on the So. side of Center Hill at 1010. Watched these for a while, then came in to eat and rest.

In the afternoon I wanted to see if I could find pectorals along the road to collect. Jerry and I drove down to the lower camp to get the shotgun from Sandy. Could not find her, so we looked for birds, instead. Saw a pair (presumably) of <u>yellow-shafted flickers</u> and a pair of <u>sparrow-hawks</u> - near the Northern end of the range of these. Next drove up to Eagle Summit. Saw no pectorals - only a few <u>bairdii</u> (these are more abundant and active today than before). Spent about 45 minutes on

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(23 May) the summit practicing getting the truck unstuck from the side of the road, in case we should ever really get stuck. Neither saw nor heard surfbirds. Returned to camp. Found a pair of <u>Says phoebes</u> hanging around the cabin. One bird (maybe both) continually entered the space under the desk at the South end of the cabin to sing - maybe we'll have a nest in our cabin.

By this time much of the snow had disappeared. Passerines were still quite noisy; counted 5 full song sequences in 1 longspur display flight. Ate a big chicken dinner, took down my tent, and to bed.

24 May <u>Eagle Creek, Alaska</u>

Woke to find 2" of fresh snow on the ground again, and snow still falling, darnit. Gave up on getting up early. Ate a liesurely breakfast, then drove down to the lower camp. The five of us (Jerry, Sandy, Dale and his Sandy, and myself) went birdwatching and tree sparrow collecting down there. Saw a <u>yellow warbler</u> right by their camp. Drove down the road a bit, then got out to look for sparrows. Collected 3, and in the process added <u>orange-crowned warbler</u> and a possible <u>pine siskin</u> to our list. Saw several species in small groups by the road - possibly related to

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(24 May) bum weather – 4 snipe, 6 mallards, several groups of water pipits. Not much singing – but are very loud and persistent fox sparrow.

Returned to camp and almost immediately saw snow buntings, orange-crowned warblers, and a Wilson's warbler – 3 new warblers in the area in the same day. Much of the snow was gone from the area around camp, so Jerry and I drove up to Eagle Summit to listen for surfbirds and assess conditions there. Saw golden plover, baird sandpiper, and a flock of ca. 25 longspurs, but no Alphriza. Returned and found Canada Jay in the willows by camp – new to my list for the study area. The robin nest by the highway, above camp, now has 2 eggs. Sandy has a redpoll nest with 3 eggs as of yesterday.

John Theberge arrived in the area this afternoon, bringing 1 assistant, 3 dogs, and a note from Weeden. He did not bring one Uher tape recorder.

25 May Eagle Creek, Alaska

Awoke to find ..... I'm getting tired of this. This one doesn't seem so bad; there is <1" on the ground, and although it is still (5:00 a.m.) snowing, the light intensity is high, clouds look thin, and some birds (one

Journal

(25 May) white-crown by the cabin) are singing. However.... Jerry has to go to Fairbanks Monday as per note from Weeden and I think I will pack up and go with him. If the Uher is there and conditions are promising I will return to try to record surfbirds; otherwise I'll go on up to Barrow.

Spent the early morning working on my overlap paper and redoing. [Note: I just looked out of the window and saw a robin go up under the roof of the cabin just to the SW. Went over and located a nest with 4 eggs.] At 9:00 went down to lower camp to get Dale and Sandy, and the ptarmigan counters headed out toward Mastodon Dome. I took the pickup to Eagle Summit. Spent the rest of the morning watching 4 surfbirds there. Found another new species - grey-crowned rosy finch on steep talus slope on So. side of Puzzlement Hill.

Returned to camp to get out of the wind while eating and writing notes. Went up again later, but could not relocate the surfbirds. Did find a pair of tame rock ptarmigan and photographed these. Again saw rosy finches there. Walked around the hill, then had to hurry back to have truck for Dale and Sandy to return to lower camp. The

25 May) ptarmigan chasers stayed out late, so I rushed for nought. Ate Dinner, then to bed.

Our Saye Phoebes are back, singing from the cabin peak. My robin nest by the road may be deserted - still 3 eggs and they were cold.

26 May

Eagle Creek, Alaska

Left the cabin at 6:45 A.M.; returned at 7:00 P.M. In between covered a lot of ground. Weather was clear and warm. Went up the face of South Hill, then back along the ridges to the base of Mastodon Dome. the ptarmigan chasers started counting there to complete the census of the Mastodon area. I remained on the ridges and tried to keep pace with them. Walked toward the South, then toward the West. Added buff-breasted sandpiper to our list: saw 2 singletons and a group of 5. Also saw pectorals in addition to many bairds, displaying actively. Encountered about 1 pair of surfbirds / ridge. Heard only one brief burst of display. golden plovers both in flocks and as territorial pairs, with several males displaying. Encountered many ptarmigan and heard more display than on any previous day. the high point of the day: simultaneously

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26 May) saw 1 buff-breast, 2 pectorals, 2 bairds, 1 surfbird, 1 golden plover. the low point of the day: struggling up the hill to get out of the Mastason area and walking back to the camp.

27 May

Eagle Creek, Alaska

Packed up to leave for the year and drove to Fairbanks with Jerry. there I found that the Uher has arrived. Since weather was good at Eagle Creek, and Since Dr Weeden said that the birge would be coming down the road Wednesday or early thursday, I decided to go back and have a try at recording the surfbirds and collecting some. Spent most of the day in Fairbanks running errands, then driving back. Once back, found that The birge will not be leaving until Friday. that introduces complications.

Saw many snowshoe hares along the road and one road-kill porcupine. the ducks seem to have dispersed - they are no longer seen in flocks in small lakes along the road. Watched for roadside peeps - especially surfbirds - but saw only an unidentified pair. At Weeden's house in Fairbanks saw a ♂ ruffed grouse on his drumming log.

28 May

Eagle Creek, Alaska

Woke to find a day nearly ideal for recording: warm, clear, and little wind. It

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(28 May) took a little while to set the recorder up and remind myself of its operation, then drove up to Eagle Summit ca. 8:30 A.M. Started searching puzzlement hill for birds, with no success. Started out the ridge running North and found myself in a freak storm - wind and hail, then rain. Had to scramble down to the road and back to the truck to keep the equipment from getting wet. Went back to the camp to eat, curse, and wait it out. The storm cleared and I went out again, but now the wind was too great. So I got skunked for recordings. Didn't matter - walked much of the rest of the day and never heard Surfbird display. I would like to have recorded at least the alarm note to compare with bairdii, tho.

Went out with malice and shotgun and shot the first (and only) pair of surfbirds I encountered. Spent the rest of the afternoon and part of the evening walking and looking for these and other shorebirds. Saw many golden plovers and bairds, and a number of buff-breasts, but that was all.

Returned for a late dinner, then worked until 2:00 A.M. putting up the pair of surfbirds.

Today I saw, for the second time, the tail-pulling precopulatory behavior of longspurs. Also saw ♀♀ carrying nesting material.

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(28 May) green growth of grasses and Dryas is evident and flowers (Ranunculus sp., Douglasia, Arctostaphylos sp) are becoming common. the latter flowers before any new vegetative growth is evident. Eagle Creek hit its high point of the year this evening; the snow is perhaps 75% gone from the area.

Saw a new bird outside the cabin: grey-cheeked thrush. they are insignificant looking things and could easily have been overlooked previously. this one was singing right outside of the window. Found a new robin nest w/ 4 eggs under the eaves of the next to last cabin of the camp area.

29 May Eagle Creek to Fairbanks, Alaska

I now sit by the side of the Steese Highway at the Eagle Creek roadhouse, waiting to try to bum a ride to Fairbanks. I left part of my gear in the cabin to be brought down and shipped to me in Barrow. Began at 8:50 a.m.; have not seen a car yet (9:40).

[Forgot to mention: yesterday I watched a short-tailed weasel cavorting around a talus slope on Puzzlement Hill. It was nearly fearless - passed within 15 ft. of me. It was an interesting mixture of white and brown pellage.]

First car came by at 11:00 a.m. - headed toward Fairbanks - and gave me a

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(29 May) ride. It was driven by Terry Brady of Fairbanks and Central - former V.P. of A.C.S.. Had an interesting conversation on the way in. Again noted that the waterfowl have dispersed and are not seen along the road, as before. Fairbanks has leafed out rapidly and is now quite green.

Checked into Fairbanks Hotel, then went over to Wien office and discovered that they had no plans for a flight to Barrow. Went over to talk with Dr. Weeden and retrieve stowed belongings, then went to U. of A. and spent the rest of the afternoon and evening talking with Dr. West regarding post-doc plans.

30 May <u>Fairbanks, Alaska</u>

Spent the day killing time, wondering if I would ever get away. In the afternoon Wien decided to attempt a flight this evening.

31 May <u>Fairbanks to Barrow, Alaska</u>

Spent the night in the Fairbanks airport. At 6:00 A.M. they loaded our bags on the plane; at 6:30 they cancelled the flight. Went immediately back to town to see Bob Fisher, and finally managed to be off for Barrow, via Cessna 185, at 9:30 A.M. Landed on the road

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31 May) between town and camp at 1:15. Made a quick trip into the ARL office, then went into Barrow and remained there until we moved our gear out to camp at 8:00 P.M.

1 June <u>Barrow, Alaska</u>

Spent most of the day talking with Brewer and Schinzler and getting the lab in order. Met Dave Norton from the U. of A. - here to work on bioenergetics of incubation and chick growth in jaegers. In the afternoon drove out to the Beach Ridge with Dave and Edna for a first look at the tundra. The weather was fairly warm. Melt about normal or slightly ahead - about a 250 m. stretch of the ridge was exposed SW of the crossing. Saw many red-backs, 2 pectorals, 2 semi-pals, 1 turnstone, lots of longspurs and buntings. The tundra that is exposed shows little sign of lemming activity and is generally in good shape - many seed heads, etc.. Collected 3 <u>alpina</u> and 1 <u>melanotos</u>, then drove over to area of Pitelka's census plot. Conditions there were about the same - saw only redbacks and longspurs; not as much exposed tundra. Saw 1 short-eared owl here, as well as at previous site. A few jaegers flying by. Now

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1 June) no concentration of activity.

Spent the evening waiting for Pitelka and talking with Dave and others in the lab.

2 June <u>Barrow, Alaska</u>

Spent most of the day visiting with the in-laws. More warm, pleasant, snow-melting weather. Walked home via Browerville ridge. Saw the first bairds of the year as well as red backs, turnstones, and the two passerines. Still no golden plovers.

3 June <u>Barrow, Alaska</u>

Finally made connections with Pitelka, as well as Tom Custer, who arrived last night. In the morning talked about surf-birds and finished arranging the lab. After lunch went out to drum area to see Tom's longspur traps, then continued out to survey the area. Went out to look at and scheme over the now-deserted micro-met wanigans. (there it was so warm that we had to take off our jackets.) Out to gasline ridge- not much there but 1 very worked up ♂ red-back. Again was impressed by the tundra condition; many cacoons, willow catkins about to burst out, and many <u>Pedicularis</u> heads -

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(3 June) quite early for these. Drove over to Village Ridge - found much red back activity, but no other peeps. On the way stopped by Voth area in an area of wet, grassy tundra and took 2 ♂ pectorals that happened by. (they are heavier than previous bird: 100.0, 101.6g.) Watched red-back activity, then collected 3. Saw the first snowy owl of the year, but again no lemming sign. Also saw the first red phalaropes - a few individuals moving by. Early for these. Drove in by way of tom's longspur traps.

After Dinner went out with tom and Edna to check longspur traps. Found a previously banded ♂ longspur and a new ♀. Returned and spent the evening in our hut with Pitelka, tom, and Dave Norton trying to help Dave realign his project, since jaegers are out for this summer. He responded well to our suggestions of red-backed sandpiper or golden plover as subjects of the same kind of study he has planned for jaegers.

Note: funny business in the lemmings; although there is little sign there was some spring breeding. We frequently scare up juvenile lemmings - caught one tonight.

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~~Barrow~~ Journal

4 June

Barrow, Alaska

Went out to Drum Area to check longspur traps. Saw 2 pair of semi-pals; no bairdii yet. Edna went to work with the group of M.D.'s from (I think) Univ. of Washington - here to check the eyes of people in the village. this involved (of course) a conference with Dr. Brewer.

In the afternoon drove out to the North end of P's plot. He worked South to census the plot; I worked No, then West along the ridge to sample habitat available for feeding. Did this by setting a line towards some landmark and walking a transect, taking stations at 10 m. (pace) intervals, until I ran out of exposed tundra, then changing directions and repeating. took about 175 stations this way. I think the data are good, although I should not limit myself to one area.

there was a burst of alpina activity at P's plot, but less on the other arm of the ridge.

In the evening drove out the gaswell road. Right near the gaswell buildings a portion of So. Footprint Lake was exposed. there, a newly arrived flock of ca. 25 - 30 alpina, and melanotos

4 June) and P. fulicarius were very conspicuous. Collected 2 pectorals and 2 redbacks before coming in.

Weather was again comfortably warm without much wind.

5 June Barrow, Alaska

Spent the morning in the lab. Checked stomachs of red-backs that Pitelka removed from his plot. 2 ♀♀ had lemming bones and teeth, little else. ♂ had fresh Tipula larvae, no lemming material. Once again - it holds. Went out to Drum Area briefly.

Decided to use lemming traplines as habitat - snow cover transects. Right after lunch started out and did: IV A-B, III A-B, I + II, V + VI, VII + VIII, IX + X. This gave 6 × 102 points. I thought of making polygons by joining the ends of each pair of lines, but rejected this because of the inconsistent distances between lines. Managed to do them all in 1 afternoon - partially due to the fact that 5 lines (IV A-B, VIII, VII, and X) are completely snow covered. Found that 90.2% of the total was under snow, which matches my subjective evaluation. This left only 60 stations exposed - not really enough for a good habitat sample,

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5 June so I will have to continue supplementary sampling.

Weather was funny - not cold, but a very thick ground fog. Ran out of land marks in driving across Central Marsh - funny feeling. Saw 2 sandhill cranes from a short distance in Vath Area. Saw and collected the first ♀ pectoral of the season.

After dinner went home and lay down... and couldn't get up.

6 June <u>Barrow, Alaska</u>

Went out to Drum Area to check longspur traps. Banded 1 ♂. Still 2 pairs of semi-pals there. Flock of ca. 35 pectorals.

Martti Soikkeli arrived last night. This morning I drove down to Akroawik with him and two native laborers to position the wanigan and check on the condition of Holmes' census plot. We ran the periphery of the plot; one or two Drums are missing, but the limits of the plot are clear. It is about 95% snow covered, but there was much red-back activity on the open places. Also saw a few pectorals on the plot. Positioned the wanigan on a patch of open high ground about 1/2

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June way down the East side of the plot, with the door facing west.

Returned via the gaswell and found, again, much activity there. red-backs, pectorals, phalaropes, some semi-pals. Collected a ♂ and ♀ pectoral and a red back there. Back to camp for a late lunch as weather turned colder and snow began to fly. Spent the rest of the afternoon putting netting on new emergence traps.

In the evening Pitelka, Soikkeli, and I drove out to Beach Ridge in the vicinity of Micro-Mex. It was quite cold and activity was very low. This left time for conversation. Soikkeli came right out with it: "there are many things that I want to see with my own eyes." Already we have convinced him of one difference — showed him a first year ♀ coming into breeding condition. First year birds do not even come to the breeding area in the population he has studied in Finland. It was too cold to get much done, so we came in and I worked until 11:30 finishing the emergence traps.

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7 June

Barrow, Alaska

Pitelka made a very early start for the tundra, leaving us with no transportation. Spent the morning with Soikkeli talking and assembling a load of gear for Ikrowik. After lunch and a quick wedge repair set out. Weather was cool - near freezing. Drove ± directly there, with Soikkeli learning to drive. Put away the gear, then took a more leisurely trip back. 1 pair of red-backs right around the wanigan look about ready to lay eggs. Not much else on the plot. Many red-backs on open ground on the way back. By the gas well - still many pectorals (collected ♂ + ♀ to show Soikkeli size dimorphism) and red-backs, frequent phalaropes, some turnstones. Still jaegers passing by, and we saw an owl on the gasline arch.

Back in camp for a 2-hour marathon discussion with the Director, interrupted by phone calls.

Spent the evening doing the habitat transects. As suspected - not much melt in the last few days - 88% snow cover. Found a 1-egg alpine nest just No. of trapline IV A-B. Very pleasant evening - below freezing but not much

Macleod
1968

Journal

7 June) wind, crusty snow to walk on ... but not too much bird activity. Watched a ♂ & ♀ pectoral acting like a pair near the vath area, and many red-backs in the area.

Returned after midnight, and talked with Dave Norton until 1:30. He is having trouble directing his efforts - don't know how it will work out.

8 June

Barrow, Alaska

We were awaken by A.R.L. people wanting us to move to hut 169 - our home for the remainder of the summer. That took all of the morning and part of the afternoon. By then, as a result of short sleep and an infected finger, I felt lousy. Remained that way for the rest of the day.

It was sunny, but cool today. Again not too much melt, although it seemed to be warming up again by about midnight.

9 June

Barrow, Alaska

Slept in, and felt better for it. Went out with Pitelka to do habitat transects. Stopped by lagoon at junction of gasline and main roads, where sanderlings were feeding. Left Pitelka and did III A-B, IV A-B, I & II, then picked him up on the way back to camp. Went out the other way and did IX & X, VII & VIII, V & VI.

Machean
1968

Journal

9 June) I'm now convinced that there is an abnormally large amount of snow out there - still 86% snow covered. We can still go just about anywhere by weasel by driving on snow. Yet I saw the first blossoming Ranunculus today in two different places. Apparently the ridges, which blew off early, have had plenty of sunlight and adequate warmth, but there has not been enough of the latter to melt the snow accumulation in the lower places.

Back briefly to figure snow cover, then out to lagoon by junction of Gaswell Road to photograph a ♂ common eider stranded there. Dinner at the mess-hall, then out with Tom and Edna. Stopped by the lagoon again so that Tom could photograph the eider. Saw a knot there - probably ♀. Continued on to check my red-back nest and take 500 cores for Berlese extraction. Took 8 from SW and SE. flat ca. 150 m. No. of lines IV A-B, where I saw ♂ redback from the above nest feeding. Drove up to Village Ridge - too much snow, so back to 10th area and took 8 cores from low polygon trough system under new cake-eater site. Returned to put cores in extractors, then home to write notes.

Am impressed by the large numbers of turnstones in the area, and by the small

Macleod
1968

Journal

(9 June) numbers of golden plovers (saw my first today), bairds, and semi-pals.

10 June

Barrow, Alaska

First counted the larvae removed by Berlese extractors - all 3 Tipulids, mostly Pedicia. Spent the rest of the morning talking with Soikkeli and getting him squared away for another, longer, trip to Ikroavik, and catching up on field notes. After lunch Pitelka and I went in to buy some ivory carvings from Paul Patkotak. Returned and went out to check my red-back nest - now 3 eggs and incubating. Went up to Village Ridge to try to find another nest and discovered a 2 egg nest about 300m. NW of the first.

Returned for dinner. Met John Cody - U. of A. student here to collect Lemmus for a physiological study to be done in Fairbanks. Seems to be an organized fellow - should do all right.

Went out to Elson Bluffs, So. of Wohlslag. Found another 2-egg red back nest. Most of the red-backs appear to be at the laying stage. A group of 5 or 6 ♂ pectorals - took 1. Latera lone, possibly territorial, ♂, collected this, too. Phalaropes beginning to disperse over the tundra. After that drove over to Dave Norton's study plot. He has

Maclean
1968

Journal

0 June) begun temperature recording from one 2-egg red back nest. There is a pair of territorial pectorals on the plot, but I found only the ♂. Earlier the ♀ acted (toward Dave) as if nest was nearby. Looks good.

Drove in - weighed and measured pectorals, counted larvae under extractors (lots of Pedicia), home to write notes, and so to bed.

Today was quite warm - good melting weather. In the afternoon I went out without a jacket (It really wasn't that warm, but it is fun to think it is.). The Ranunculus really burst forth - they are all over the place. This will be a great flower year.

1 June Barrow, Alaska

I feel lousy! Slept in, then piddled away the morning getting infected finger repaired, counting Tipulids under extractors, and even sweeping the lab. Spent the afternoon doing melt and habitat transects - still 82% snow cover, but an increase in the rate of melt. It is still possible to drive ± anywhere in a vessel, and the snowpack is not yet to the point where it could go in one good warm day. Not much time to watch birds. There has definitely been an influx of bairds.

In the evening I tried to go to the movie, but I couldn't take it and went home to bed.

Maclean
1968

Journal

2 June

Barrow, Alaska

Slept in, hoping to get over this cold quickly. In the afternoon I went out to harvest the three redback nests. Went with Tom to the two near Village Ridge - Cakeester area. Collected 4 eggs and an incubating ♀ from each. Saw a curlew sandpiper ♀ by Cake-ester on the way in. Back to the lab to exchange Tom for Pitelka. Drove out to Micromet area (now extinct), dropped FAP, and continued to Wohlsleg Slough to collect 4 more eggs and an incubating ♀. (See C. alpina notes - this date).

In the evening drove out with Tom across Wohlsleg to collect material for Berlese extraction. Took 8 cores from saturated flat on So. bank of Wohlsleg, in an area but recently exposed. Went on to Elson bluffs and took 8 more from a flooded polygon trough system. Walked around this area - saw pectorals trying to set up territories, with some hovering. Found a 3-egg Phalarope nest - far ahead of other areas. Returned to place this material in the funnels, then home to write notes, and to bed.

It was again quite warm. This has been the warmest spring of my experience, which makes the extensive snow cover surprising. Must have been a very heavy snow pack this

Macean
1968

Journal

winter

13 June

Barrow, Alaska

Again slept in for therapeutic reasons. Drove in to Barrow and bought 5 large seal skins from Shorty's store for $136.06.

Spent the afternoon doing transects. The snow is perched at the brink - very slushy, but still there (76% cover). The next two days, if the weather holds, should see the end of much of it. Nothing new in the birds - bairdii still coming in, and melanotos looking encouraging.

The Wien plane brought Pete Gogan, our assistant, and Uriel Safriel, the Israeli Post-Doc from Michigan - another shorebird type. Put Pete to work hand-sorting the berlèzed 300 samples to see how the extractors worked - not perfectly - we found 7 Pedicia in ~~13~~ 12 samples. Safriel mentioned that he has been successful in placing samples in hot water. Will have to try this.

14 June

Barrow, Alaska

Pete found 1 additional Pedicia in the remaining 4 300 samples. ∴ the berlèse extracted 38/46, or 82.5% of the Pedicia in the 3-day run.

took Gogan and Safriel out the gasline road. We stopped by the new

Maclean
1968

Journal

14 June) Cake-eater site to survey semi-pal population and consider this as a study area for Safriel. In <1 hr. found 2 alpina nests ca. 150 m. apart and 2 pusillus nests ca. 60 m. apart. One of these was near the snow and obviously fresh, so after walking around the area we went back to get a trap. Returned with Soikkeli and his trap - took the incubating bird - a ♀, methinks - and the 4 eggs. Back to the lab to weigh eggs and bird. Spent the evening in Barrow at the Nalakatuk. During the evening it rained quite a bit. This should loosen up the remaining snow.

15 June Barrow, Alaska

today was the day when the snow turned to water and slush. Pete and I got waders from the camping room, then spent half of the afternoon putting tube patches over the holes in them. Went out to do habitat transects. Ran into problems in deciding how to classify flooded troughs and lowlands - they are temporarily ponds, but the actual topographic characteristics, considered without regard to moisture, are still 'trough' or 'flat'. the correct thing to do is call these tr-pw or f-pw - defining pond water as water that covers the bases

Maclean
1968

Journal

15 June) of the vegetation. Standing water goes around the bases of the vegetation. the problem - I have been describing shorebird feeding events under these circumstances as pond edge. To allow for these I must treat PE as a special category, modifying topography, and record PE situations to compare frequency of occurence with utilization of such. I think this can be done without much loss of information from previous transects.

By the time I had this issue resolved and had made 2 trips up all of lines III & IV the afternoon was shot. After dinner Pete and I went out again to VI & X, then I & II. Sloshed across the So. end of Central Marsh - this was almost a mistake. Stopped to take SOD samples and shoot 5 pectorals, then on to complete the transects. Finally finished the job at 1:30 a.m. Back to the lab to put the new SOD samples in the extractor, then fell into bed.

st
Eoicularis -
fasline
Ridge.

the phalaropes and pectorals appear redoy to take advantage of the appearance of suitable nesting habitat. Saw each of these along most of the lines today, including a large flock of each where we took SOD samples in Central Marsh. the two ♂♂ pectorals collected today weigh <100g.. the noisiest shorebird, however, is still C. bairdii.

Maclean
1968

Journal

16 June

Barrow, Alaska

Almost went to Wainwright today. Edna was to go with Dr. Young, the eye doctor. There was an extra spot on the plane, which I volunteered to fill. Just as things were arranged a thick fog moved in. Waited around for it to lift, then gave up and went in to spend Father's Day with Edna's family.

Walked home via the inland route to So. Salt Lagoon about 1:00 A.M. Saw nothing of particular note.

17 June

Barrow, Alaska

Transect day again. Spent the morning sleeping in, then measuring berlese products. Started transects at 12:30 - did III + IV (A & B). Again heard knots by IIIA-B. Back to the lab, then out to IX + X, I + II, V + VI, then VII + VIII. Discovered that I have to do VII + VIII at a greater distance from the lines, since years of walking the traplines have worn a trough, so that the immediate vicinity of the line is wetter than the surrounding marsh. Again - much melt in the past 2 days; we're down to 30.9% snow cover. Much of the rest should go before the next series of transects. Finished the job at 6:30 P.M.

Machear
1968

Journal

(17 June) Pectorals are settled along suitable habitat, but not in any great densities. ♂♂ patrolling territories are covering very large areas. Phalaropes appear to be getting down to business. Still much bairdii display, but the longspurs and redbacks have already quieted down.

Spent the evening at the second nalakatuk. Again, a warm rain fell for a fair part of the evening.

18 June Barrow, Alaska

Foggy, again. The morning counting berlese returns and sorting already extracted samples to test efficiency. Again, it was < 100%. After finishing this Pete and I went out to the area inland from the navy communications van. Semi-pals there in active display, as if newly arrived. Saw no bairdii and found no pusillus nests – just 1 four-egg Arenaria nest. Went in about 1/4 mile and took 500 samples – 8 from a sat. flat and 8 from a low polygon trough system. These were from areas just exposed by melt, so that all 4 series of samples taken to date represent a melt-off sample.

Spent the evening hand-sorting the samples just removed from the funnels. The extraction efficiency was very poor. One of the samples was quite dry, yet yielded 3

Macheson
1968

Journal

18 June) additional Pedicia, so I don't think more time in the extractor is the answer. Maybe 40 watt light bulbs would generate more heat.

19 June

Barrow, Alaska

the 800 samples taken yesterday are loaded. Processed the haul in the morning, then went out to do habitat transects. Most of the lines are clear now, but no line is completely so. the job takes longer each time - III A-B, IV A+B, back thru the lab, then IV + V, I + II before dinner. gasline Ridge is loaded with blooming Pedicularis, Salix rotundifolia catkins, Ranunculus, Saxifraga cernua about to bloom. Went out after dinner to finish the job: V + VI, VII + VIII.

Still lots of baird activity. It is obvious now that the pectorals will be another bust. The final evidence: the unbalanced sex ratio - many more ♂♂ than ♀♀ now. this will be a low phalarope year, too, but not as much non-breeding in this sp. No sign of the knots.

20 June

Barrow, Alaska

today was Dr. Pitelka's Departure Day and the day of initiation of tanglefoot insect traps.

C. bairdii - ok pair + 4 yo eggs in drum area.

Pete and I gressed up the boards and hedged out. At site I found positions #1, 2, and 3 still under snow. Set #4, 5, + 6, then went to site II. there, positions 5 and 6 were too wet to set, so we placed #1-4 out on the Beach

Maclean
1968

Journal

20 June) Ridge. Continued on to the South end of the Beach Ridge to take 16 sod cores from upland-ish tundra to hand sort for *Tipula* larvae. I would like ~~a~~ to supplement our berlese yield of *tipula* to see what the size distribution looks like.

Spent the evening at the Browerville Nalakatuk. It was clear and cold.

21 June

Barrow, Alaska

Cleaned the lab, then spent most of the morning hand-sorting the upland sod samples. They produced a total of 1 *tipula*! Guess we'll go out of the *tipula* business.

Rigged the doors on some new-design emergence traps and repaired 3 old ones, then loaded up 6 of these and out to tanglefoot site II (So. Beach Ridge). Placed 2 emergence traps in Central Marsh - #5 - f-sw - 4%-A, 5% and #6 - f-s - 4%-A-4%-G. These correspond to tanglefoots II-5 and II-6. Also took 4 sod cores corresponding to each of these. Placed the other 4 emergence traps on the ridge - one in a tr-sw-3% situation, one tr-w-4%, the other 2 on nearly dry sites. Had a little trouble making them escape-proof. After this went down to So. end of the ridge to take 8 trough sod cores from the area where we took 16 upland cores yesterday - just to complete the picture for that area. Had Pete drive the

Machean
1968

Journal

21 June) weasel back for practice.

Not much in the way of bird activity - bairdii still noisy, a few plovers in the area now, not many pomerines to be seen now. Spent the evening in Barrow at the final Walakatuk of the year, then returned to place 500 samples in extractors.

22 June

Barrow, Alaska

A beautiful day, and the pectoral scene broke wide open! Slept in in the morning, then came in to harvest Pedicia (very few thus far). Went out with Pete to do transects - took all afternoon to finish III A-B and IV A-B. Pectorals were all around in flocks, and we found 2 nests in the Voth Area in addition. Also collected a Canada Jay in the Voth Area. Adult insects appeared in response to the warm weather. Found a ♂ Prionocera flying quite well by IV A - 0.0. Apparently they use the wings to disperse before becoming more sedentary. Prionocera, being common in a patchy (pond margin) habitat, probably needs to fly more. I don't recall seeing tipula fly as well. Also fair numbers of ad. Chironomids.

Returned for dinner. Dick Holmes came in on the evening Wien flight and went out with Pete and I as we completed the trapline circuit. Since the evening was so

Machear
1968

Journal

2 June) clear if turned quite cool. the pectoral influx is a general event - they are all over the area - some trying to set up territories, but still few ♀♀. Collected a number - ♂♂ vary widely in weight, but some are heavier than any collected this season. Saw white-rumps for the first time this year. Finished the job and returned after midnight.

3 June Barrow, Alaska

Spent the morning at home, thinking Tom and Pete were out setting traplines. they weren't - tom decided that he had more important things to do. Had to spend the afternoon with Pete setting VI & X, then I & II. these are the only lines that are in any condition to be run. Still lots of pectorals around - collected 3, and the evening run of the traps got 2 more, (including a ♀). Another beautiful, warm day. Still at least 2 ♂ white-rumps on gasline ridge. the Pedicularis display there is magnificent. Saw a group of 23 snowgeese overhead as we did lines VI & X.

In the evening Holmes, Soikkeli, and Safriel came up to the hut for a shorebird confab. Unfortunately Soikkeli seems afraid of his English, and Safriel definitely doesn't, so we didn't hear much from Soikkeli.

Machesa
1968

Journal

24 June

Barrow, Alaska

Spent the morning processing pectorals and putting up the Perisoreus while talking with Holmes. It was a miserable, foggy, rainy day. After lunch Pete and I sorted 500 samples, then loaded up for change at tanglefoot II (he changed I and set out boards 1, 2, + 3 last night). Went out to make the change, but the weather was too rotten to do much else so we returned to sort the remaining 500 samples.

After dinner went out with Pete and Edna on trapline check. took 8 cores from each of 2 places where pectorals have been feeding - East of lines IX & X, and North of Gasline Ridge - both areas f-sw. the pectorals have become less common, but there are still some in the area. (Later tom reported a flock of 200-300! in the Drum area.) Again saw white-rumps on Gasline Ridge - a ♂ chased away 2 pectorals.

25 June

Barrow, Alaska

Up early to start laundry and write notes. Processed berlese yield - it looks like pectorals know how to choose good feeding sites. today was transect day again. I'm getting tired of this job. Since we've reached the point where habitat conditions will change less rapidly I'm

Maclean
1968

Journal

25 June) going to our back to once per 6 days. This will hopefully leave a little time free to look at birds - something I've done darn little of this season. Anyway... managed to do the transects with less disturbance than last time, although there are still many ptarmigan in the area. These are becoming more tightly flocked now. Did lines III A-B, IV A-B with Pete along, then V, VI, VII, & VIII alone. There is still a large snow bank along the inside edge of Central Marsh making travel difficult.

After dinner took Edna along and went out to run traplines IX + X, I + II and do these transects simultaneously. Caught a redpoll in line IX.

26 June

Barrow, Alaska

A big day for the weasel. It didn't survive it. In the morning Pete went out to check the two pairs of lines, then bring in IX & X. I stayed back to count, clean, and regrease the tanglefoots, then sort sod samples. Pete then went to set III A-B. When he returned we went out with tanglefoots and emergence traps. Placed two of these East of IX & X, where 8 sod samples were taken on the 24th. Running short on time, so we left the remaining traps near tanglefoot I and spent the rest of the

Machen
1968

Journal

26 June) afternoon changing the two sets of tanglefoot boards.

After dinner Pete and I went out to move traps at I & II to IV A-B. On the way (via Gaswell Road, then into the gasline. the road below Gasline Ridge is bad already.) we broke the inside strap on one track. Managed to pick up traps and move them to the road, then limp in. Checked III A-B on the way in. Not much in the traps, but found a turnstone nest (4) and plover nest (34) near III B. Also found a phalarope nest (4) on Gasline Ridge. Shows what happens when I get to pay attention to the birds. the evening was cold and very foggy - couldn't see much. Still flocks of pectorals and, I think, some free alpina in the area.

Saw 2 different snowy owls yesterday, even tho' the traplines aren't producing much. Not many jaegers left.

27 June Barrow, Alaska

Up early to get a replacement weasel, then walked out to the field in the morning! kind of fun. Went out thru Drum Area to Beach Ridge near Micro Met to see out the emergence traps. On the way checked plover nest near II - now empty, darnit. Spent the rest of the morning watching birds: I had almost

27 June) forgotten how much fun that can be. 3 ♂♂ white-rumps cavorting around the Micro-Met buildings, several unpaired plovers, still many pectorals, and redpolls are very common in the South end of the drum area. Resolved to find another golden plover nest and did - a 1-egg nest. Morning was foggy and rainy, but not too cold.

The rain increased in the afternoon so I stayed in to write notes and count and clean tanglefoots. Had a conversation with Brewer re. destruction of tundra; the final straw - fresh tracks thru the middle of tanglefoot site I sometime last night. The result was encouraging - an on-the-spot call to Vinnell re. the gaswell vessel, and a note to all ARL people. That shot the rest of the afternoon.

After dinner went out with Pete to run the traplines and weigh eggs. Weighed the turnstone and plover eggs by III-B, although I don't know how far along they are. By IV A-B found 2 phalarope nests with 3 and 4 eggs; weighed these. On the way in took 500 samples from flat and trough system on ridge South of FAA. Had to pull a village vessel out of the tundra twice, then in. Put 500 samples into extractors, then drove out to shooting station. Saw an osprey and pintail nest ca. 15 m. apart on

Macheson
1968

Journal

27 June) one of the slo mounds.

28 June Barrow, Alaska

Funny day. In the morning it was very windy with occasional snow flurries. Didn't hurry to get into the field - wrote notes, processed berlése yield until Pete returned from the traplines. Went out to So. Drum Area to find a second egg in the plover nest. Returned the weasel and walked out with Pete to look for nests and watch birds. It was very cold and windy as we started. Found a 4-egg pusillus nest at the So. end of the Drum area. Watched the pusillus activity just So. of the Drum area and concluded that it must be mostly for naught - nonbreeding birds. Continued along the banks of ~~Elson~~ Family Lagoon - found nothing new until about 1/2 way across the So. end of the lagoon. There found a focus of bairdii activity and a 2-egg nest. Circled back toward Micro-Met - nothing there but 1 territorial pectoral. Looked for white-rumps around Micro-Met - finally heard a ♂ display farther East down Beach Ridge. Walked back through Drum area. Safriel's helpers found a 2-egg bairdii nest near where I removed a pair on the 20th; weighed these eggs, then in.

The weather went from cold and windy to pleasant to windy, and ended up snowing and raining again. Red back activity is essentially over, and the pectorals are in flocks, however there

28 June) are still bairdii and pusillus displaying. Areas of good plover habitat are definitely vacant.

Slept a bit in the evening, then went down to the lab to write notes and count bar lese yield. Since it was now raining steadily went to shooting station for the rest of the evening.

29 June Barrow, Alaska

First out to the plover nest - still 2 eggs. It was again snowy and quite windy. Greased up fresh tanglefoots and made a quick start after lunch. Still 2 plover eggs. Spent the afternoon checking emergence traps and changing tanglefoots. The first results from the emergence traps: 2 ♂ Pedicia from site II. This is encouraging. Saw a flock of golden plovers - collected one. On the way in a larger flock which also included ca. 6 knots. Couldn't get close enough to bag one. Soon there after our wessel which was just repaired broke again and I had to rush in to catch Kenny to duck before 5:00 to get a replacement for tomorrow. Next went out to check plover nest again, and my diligence was rewarded - a third egg. Weighed this - another drop (#1 - 3 4g; #2 - 27g; #3 - 26g.). Walked in and home and passed out for a while. Another snowstorm in the evening. Completed chores around the lab, then drove to shooting station. Found a 4-egg turnstone nest

Journal

29 June) on another of the old mounds.

30 June <u>Barrow, Alaska</u>

A busy day. First drove out to shooting station to get Max Algeek to help Pete with traps. Loaded up and went out to VII, VIII, V, & VI. Left them to set the traps and returned to meet Safriel. When he didn't show up as agreed I drove out to the 2-egg Family Lagoon baird nest. Now only 3 eggs and incubating. Trapped and banded 1 bird. Met Safriel as I was leaving, so we went down to the recently completed Drum Area baird nest and trapped and banded the ♂ from this nest. Next drove out to Central Marsh to pick up the trap setters, but they had finished and walked in, so I drove to our broken weasel to retrieve the shovel. On the way in collected 2 ♂ pectorals from the flock in Central Marsh. Still about 20 plovers there. Once back processed birds and siphoned some gas from one weasel into ours before going home for dinner. (In between all of this made several checks on the Drum area plover nest.)

Went to 'taming of the shrew' after dinner, returned the boys to shooting station, then went out again. Checked plover nest, then banded and weighed the other bird at each of 2 baird nests. Across to

Machean
1968

Journal

(30 June) Central Marsh to check traplines, across Wohlslag Slough for soo samples, back to Central Marsh for more soo samples, another check of the plover nest, and finally home at 2:00 A.M.. Put the soo samples into the extractors before struggling home for a snack and bed. The evening was beautiful - below freezing, but no wind.

1 July

Barrow, Alaska

Awoke to flying snow remaining on the ground. Ate a leisurely breakfast and wrote notes as the ground disappeared under about 1½" of dry, loose-packed snow. Went to the lab to complete chores there, then walked out to tundra. The shorebird adults were all feeding around the edges of ponds; these were kept snow free by the presence of water. Don't know what the chicks are doing. This was due to be a big day for hatching according to Safriel and Soikkeli. Went through the drum area and up to the 3-egg family lagoon bird nest. Still 3 eggs, and an unbanded bird incubating. I think I weighed the ♀ twice at this nest. Back around to Micro-Met, then in. As soon as the snow stopped (ca. 3:30) it started to go - mostly by ablation to the wind. The golden plover nest was under > 1" of snow - I had to

Maclean
1968

Journal

1 July) Dig around to find it to weigh the 4th egg.

After dinner most of the snow was gone and I went out with Pete to start the transects which were due today. The snow remaining in the channels prevented transecting lines V & VI so I did VII & VIII, then went in.

2 July <u>Barrow</u>, <u>Alaska</u>

First out to the Drum Area to weigh eggs of a 4-egg baird nest just found by Tom; eggs are heavy, must be fresh. On the way, checked the golden plover nest that was under snow yesterday. Today the ♂ was incubating! Back to the lab to finish cleaning and counting the tanglefoots. Out the gasline road to do transects at III A-B, IV A-B, and I & II. Back through the lab to pick up tanglefoots, then out to do transects at IX & X, change tanglefoot I, and check emergence traps at site I. Nothing (no surprise) in emergence traps, and no tipulids on the boards.

In the evening finished the transect job at V & VI, then changed tanglefoots and checked emergence traps there. Also trapped and weighed one bird at Tom's baird nest and a nest by the DEW-line, found by Safriel, completed this morning. Returned to each of these about midnight. At Tom's nest - same bird was incubating. At Safriel's nest -

Machea
1968

Journal

(2 July) the cup was empty and birds were not to be found. Damnit! And that was enough for one miserable day.

Just after finishing tanglefoot site I I saw a flock of ca. 8 bairdii come into the ponds between the road and the reefer row. I shot twice and got 1 bairdii, 3 pusillus, including one of Safriel's banded birds. Good work, Stupid.

It rained steadily all day today - I can't recall such a persistent rain at Barrow. Will be interesting to see weather bureau records.

3 July

Barrow, Alaska

A much more pleasant day. Went out to the drum area to weigh the other bird from the new bairdii nest. On the way in activated the pit-fall traps near camp to get more data on timing of carabids. Set up a recording system for these and the other insect sampling schemes, including the beer cans at sites I & II which will be activated today.

In the afternoon went out with Pete to get sod samples. Went out Gasline Road, So. of Voth Creek Crossing. Found a group of pectorals here, feeding along lp troughs and pond edges. Collected some of these, then took 8 sod cores from such sites. Took

3 July) the other 8 cores from a SW flat east of the road. Found a 3-egg alpina nest. Watched birds for a while, and collected an alpina (SM ♀ 42) that was feeding adjacent to, but above, a group of melanotos (SM ♀ 41 ♂).

Back to the lab for a brief conversation with Schindler (bitch: between Sunday afternoon and Tuesday afternoon traplines IV A-B, IV, and V all accumulated fresh weasel tracks. this has been the worst year in recorded history for destruction of the tundra.) Out with Pete to see if the improved weather has brought tipulid emergence at site I. Nothing in the emergence traps or on the boards, but 9 can traps yielded 60 ♂ & 1 ♀ Tipula. So looks like these may be the most sensitive. Activated the remainder, then went in.

There are two 3-egg bairdnests in the drum area very close to camp. Checked these several times, but they remained at 3 eggs. More damnit.

In the evening placed the 500 samples in the extractors, then went to shooting station to pick up my new parka. One more check of the 2 baird nests, and then to bed.

Am I taking on more than is physically

possible? I feel like I'm near the limit.

July

Barrow, Alaska

A very windy day. Down to the lab to harvest berlese yields - lots of big Prionocera. Why are Prionocera larvae much larger than tipula when the adults are no larger? Only possibility that comes to mind - maybe these giants are ♀♀ and ♀ Prionocera emerge gravid while ♀ tipula must feed to form eggs. I don't think that is the answer, tho. Maybe I should try to let these pupate.

Processed yesterday's bird slaughter, then out to check pitfall cans (1 carabid, 1 ♀ tipula) and baird nests (still 3 eggs each; methinks they are done.). Home to work on G.D. field notes. Went into Barrow and spent the evening playing softball at the 4th of July festivities (camp lost, 4-3). It was damn cold and windy!

5 July

Barrow, Alaska

Awoke to thick fog and a wind at the same time. The fog eventually lifted, but not the wind. Today was tanglefoot change day. As usual, hadn't read the last ones yet - that took most of the morning. Very little so far - virtually nothing from Site I. The insects are certainly late. The Central

Machen
1968

Journal

(5 July) Marsh boards are covered with micro-nematocerans.

After lunch finished cleaning, then went out to make the change. It is still cold and windy - nothing in the emergence traps, and no tipulids on the site I tangle pots. The beer cans are the most sensitive - they are producing flies when the other two methods fail.

Dr. Mary Erickson of U.C. S.B. arrived on the evening Wien plane. After dinner, she, Edna, and I drove up to shooting station to visit with the Algeaks for the evening.

6 July

<u>Barrow, Alaska</u>

A beautiful, warm, nearly calm morning - one of the few a year that bring out mosquitoes. (the wind was from the south.) Took MME out for a tundra tour - down the gaswell road with a number of stops to get out and walk. An influx of jaegers - parasitic and long-tailed, but still not many large tipulids for them to feed on. Plover and turnstone near line III B still incubating. A flock of steller's eiders plus one handsome spectacled eider ♂. <u>Alpina</u> nest found on the 3rd is still 3 eggs.

In the afternoon the wind shifted to the East and became much colder. Went out for 300 samples. I'm starting

Journal

6 July) to repeat the earlier sequence, starting with the sites sampled on 9 June. Found the 8 holes near the No. end of IV A-B and repeated these in adjacent spots. Duplicated the 8 from under the new cake-eater site only approximately, because of disturbance there. Found a new 4-egg pusillus nest in the Voth Area.

Returned to camp, then out to check the site I emergence traps (nothing) and empty the beer cans. Back to spend nearly two hours in a prolonged 'chat' with MCB.

In the evening took MME and Pete into Barrow to act like tourists.

7 July

Barrow, Alaska

transect day. Weather as yesterday: warm in the morning, wind shifting to the east and becoming colder in the afternoon. Did lines I & II, IV A-B before lunch. Ogdin saw and heard several white-rumps over Gasline Ridge. After lunch out with Edna and MME for more transects. Did VII & VIII, then V & VI, and then checked emergence traps and can traps at site II. Back to site I to check Dewisses there; our first emergence result here - a ♂ Peoicia from I-10. Finally did lines IX & X before dinner.

Went to a very funny English

7 July) movie in the evening, then went out to finish transects by doing lines III A & B. Dr. Erickson finally managed to depart on the Wien plane about 11:30 P.M.

8 July

Barrow, Alaska

A fierce, cold wind blew all day today. Edna began work in the ARL office, so I began coming to work at 8:00 A.M. Spent the morning counting and preparing tanglefoots. Still only a total of 4 ♂ tipula at site I. Unfortunately Pete got a bit overzealous and cleaned board II-6 before I had counted it.

Out early to make the change. Still lots of plovers and many pectorals in Central Marsh, the latter in a tight flock. Collected 6 with 2 shots. Nothing in the emergence traps.

Spent the evening of our first wedding anniversary at home with Edna.

9 July

Barrow, Alaska

More wind. Spent the morning counting tanglefoots and sorting sod samples. The samples now in the funnels are a complete ~~was~~ mystery! The smaller larvae have disappeared entirely; the larger class is reduced, but recognizable. What could be selectively taking the smaller larvae?

Macleod
1968

Journal

(9 July) But most disturbing - if there really is a two-year development, these missing larvae are not here to generate the large larvae of next year.

Out early in the afternoon in quest of SOD samples south of Wohlsleg. We were lucky enough to duplicate all 16 locations sampled on 12 June without too much searching. On the way back checked the car traps and emergence traps. I-10 produced 5♂ and 3♀ Pedicia. It looks like synchronous emergence, which makes the negative results to date less disturbing. The car traps were loaded. The flies may be attracted to these as a refuge from the wind. We frequently find them standing on the sides near the top, as if they could easily walk out if they wished. A few nice days without wind would settle this.

In the evening Pete and I hand sorted ½ of the SOD samples just removed from the funnels. Found nearly nothing. The small larvae just aren't there!

10 July

Barrow, Alaska

Hypothesis: if the small larvae are still present, the only way they are likely to have gone is down. Went out to

Macher
1968

Journal

(10 July) site No. of traplines IV A-B and took 6 sod cores down to permafrost (ca. 9 inches) with the 4 inch corer. Returned to the lab and spent the rest of the morning hand-sorting these from the bottom up. Found a total of 1 Pedicia (13 mm); hypothesis discarded, mystery remains. The 1 larva was near the surface and would have been included in our normal sod sample. The 16 samples in the funnels now appear to be on there way to duplicating the results of the previous samples.

In the afternoon something caught up with me. Fell asleep on a table in the lab, then went home to sleep all afternoon while Pete checked the emergence traps. Came in to count more tanglefoots in the evening, then home for more sleep.

11 July Barrow, Alaska

The wind has finally gone down a bit — down to moderate, but fairly warm. In early to count the one remaining board, clean and prepare all of them, then spent the remainder of the morning catching up on my darn field notes. Out with Pete in the afternoon for the tanglefoot change. We arrived at Site II too early to make the change, so we took a walk into Holmes'

Machean
1968

Journal

11 July) Marsh. Many phalaropes with young; this turned into a fair phalarope year. Some flocking pectorals, but not much else. Many insects - mostly Pedicia - on the ground. The wind has dried the tundra quite a bit; there is very little standing water now and the dark edges of ponds are now exposed (but not yet heavily used as feeding areas.). In checking the emergence traps we found 6 Pedicia in the trap (I-10: east of trapline X) that yielded 8 Pedicia two days ago. No other trap has produced anything near this number of animals.

In the evening began counting the tanglefoots and had a beer with Soikkeli, who is leaving us tomorrow, then move up to shooting station for the remainder of the evening.

12 July Barrow, Alaska

Spent the morning counting most of the remaining tanglefoots. The catch is still going up. Also spoke with Soikkeli and gave him some spiders to take back to associates in Finland.

Went out for 500 samples in the afternoon. Instead of trying to duplicate a previous sample which would be hard to find we took all 16 from Holmes' Marsh: 8 from the flat 100 m. east of and in line with trapline V, and 8 from a lp trough

Journal

(12 July) system 40 m. SW of the previous. Checked the insect traps on the way in. Placed new samples in the funnels and spent the evening hand-sorting the old ones. One batch of 8 did poorly in the extractors. Lots of tiny (5-8 mm) Pedicia from the Elson bluff trough system samples - an area that opened quite early. That makes it appear that these are from this year's eggs. Anyway I twist it, it is hard to make these samples agree with the June samples from the same spots.

13 July **Barrow, Alaska**

Transect day. It was pleasant early, but turned cold and foggy as I was doing the first line. Did I & II first; saw a ♀ pectoral that surely has young or a nest nearby. Also did IV A-B before lunch. Pete came along in the afternoon to check the insect traps while I did VIII & VII, V & VI, then IX & X. That left only III A-B for the evening. It was pleasant once again by that time. The lines have dried dramatically since the last check. Many points rated 'dry' today.

The III-B plover is still incubating; the turnstone nest was empty, presumed hatched. Saw a ♀ pectoral with 4 juvs perhaps a week old by aacs.

Maclean
1968

Journal

14 July

Barrow, Alaska

Counted the remaining tanglefoots and the catch from the can traps; cleaned and regressed the boards, then spent the rest of the afternoon making the change and harvesting my sundry sampling devices.

In the evening went to the camp movie with Bobby and Beverly, then drove out and spent the rest of the evening at Birnirk. Another day of warm, dry wind.

15 July

Barrow, Alaska

Calm and very warm today. Pete began the 2nd run of the traps. I drove out with him early in the morning to lines IX & X. Insects were all over the place - especially Prionocera. Went back to camp and came back with the vacuum machine. Used this to take a sample, then spent the rest of the morning hand-picking a sample of Prionocera and sweeping for other Diptera. Found a new species of tipulidae - a ♂ larger than Pedicia, black with thin yellow bands on the abdomen and a conspicuous yellow spot on the prothorax, in front of the wings. I first noticed it because it was flying more adeptly than any of the other tipulids. Collected 47 ♂♂ and 44 ♀♀ Prionocera - an even ratio taken by a human predator when both sexes are winged.

Machean
1968

Journal

Came in for lunch just as word reached us that Robert Kalayuouk has just died. Took Edna and Maria into town, then came back in time to check the insect traps. After dinner went out to take 500 samples inland from Navy communications station, duplicating 18 June. Found all 8 from the flat, but only duplicated the trough sample approximately. Went out to spend the rest of the evening at shooting station.

16 July

Barrow, Alaska

More very warm weather, and calm today. So brought out mosquitoes in record numbers. Vessel problems delayed our start; at 10:00 Pete, Tom, & I were off for Skrowik. Paused to check traplines I & II on the way. Lunch at the Skrowik wanigan, then faced the mosquitoes to survey the area. So was quickly apparent that there was no major breeding of pectorals here. Found a flock of ca. 80, from which I removed 3♂♂ and 3♀♀. Even the ♀♀ are molting now. Searched the area, but found no ♀♀ with young.

At 2:30 looked toward the west horizon and saw a group of at least 20 caribou. Thus began a wild evening. Rushed back to camp; left Pete off at Gasline Ridge to walk back via insect site I and check there. Went out to shooting station to get Charlie and some weapons, picked

Macka
1968

Journal

(16 July) up Pete at I-9&10, then went back towards Ikroawik. Found 4 caribou about 1/2 mile So. of the gaswell. these were stalked and dispatched. After skinning and loading we managed to take the weasel for a swim. Many mosquito bites later.... managed to get selves and meat back.

17 July

Barrow, Alaska

Another hot day. Had to count all 12 tanglefoot boards; I discovered that 10 at a stretch is my psychological limit. Finished in time to head out and change, thus creating another dam set to count. Also collected a big pile of tipulids from the can traps, and Pete made a record haul from the site I emergence traps. the mean catch at site I is twice that of site II - largely as a result of trap I-10.

Spent the whole evening counting the haul from the site II can traps. Can I survive this period of adult insects?

18 July

Barrow, Alaska

Hot, calm, and lots of mosquitoes again. the entire morning counting site I can traps. Sorted soil samples after lunch, then out for more soil samples by tanglefoot II-5&6, and from trough system at So. end of Beach Ridge, duplicating 21 June. Checked the insect devices on the way in. Site II is essentially done, but site I is at

Maclean
1968

Journal

(18 July) It's peak; 5 ♂ + 9 ♀ Pedicia from emergence trap I-9! How's that for synchrony?! I was curious that this trap was so far behind I-10. Pete, for the last 3 days (15, 16, 17 July) has checked only 3 arms of the cross ~~at~~ of cans at site I. Collected the 4th arm separately and will make a proportional correction of these speed over the past 4 days.

Into pur new 500 samples in the funnels, then out to Birnirk for caribou dinner. Spent the evening writing field notes.

The last 500 samples from the flat inland from the Navy communications are producing a good unimodal collection around 14, 15, 16 mm. Larvae are still coming out, so I did not put the new ones in this bank.

19 July

Barrow, Alaska

Transect day. Weasel wouldn't start, so off to a 10:00 a.m. start. It was calm, hot, and the mosquitoes were rampant. Forced myself to stay out until III A-B, IV A-B, I & II were done. After lunch met Dr. Herbert Ross of the Illinois Natural History Survey. Agreed to take him out to the tundra, then wasted half of the afternoon waiting for them (his wife and one other woman were with him). Did V, VI, VII & VIII and checked the insect traps. That left IX & X for the evening -

(1968) and that took all the energy I had left. Still too warm for a jacket in the evening.

20 July Barrow, Alaska

the warmest day yet - and I had all 12 of the peak set of tanglefoots to count. Counted one set and sent Pete out to change site II and harvest the insect traps at both sites. Cleaned and counted the other set and went out right after dinner with Edna to change these. Returned to spend the rest of the evening sorting soil samples and counting can-trap yields. Funny: although the warm weather remains the insect catch has gone way down. So is as if the first few warm days forced all of the rest of this year's crop to emerge, so that there are none left.

21 July Barrow, Alaska

Was still warm. Spent the ~~rest~~ morning sorting more soil-samples and starting the counting of the new set of tanglefoots (also loaded) so I won't get stuck again. In the afternoon went out to harvest insect traps (catch way down) and get new soil samples. These came (8) from the flat No. of Gasline Ridge, duplicating 24 June sample approximately, and (8) from near ~~the~~ emergence traps I-9 & 10, duplicating 24 June sample exactly.

Went to the movie, then removed

Macken
1968

Journal

July) stomachs from 8 young birds, including a Downy pectoral, caught in evening run of the trapline. Put new 500 samples in extractors, and home to bed.

2 July

Barrow, Alaska

My day to catch up. Sorted more 500 samples, counted more tanglefoots, wrote some notes. In the afternoon went out to the insect traps. The weather finally broke today - needed a jacket, but it was still pleasant. Removed 3 alpina from a flock of ca. 18 near ACS on the way in. In the evening I wrote some notes, then fell asleep and couldn't wake up.

23 July

Barrow, Alaska

Spent the morning counting and preparing tanglefoots. Dr. George Lindsey, Dr. Robert Orr, and Dr. & Mrs. G.D. Hanna from the Calif. Acad. of Sciences are here, so in the afternoon ~~[illegible]~~ I took Lindsey and Orr along for the tanglefoot change. Again cooler, but not cold - more wind now. Spent most of the time looking for fungi for Orr. The 2-egg plover nest by trapline V is abandoned; collected the eggs. The can traps at site II hit zero, and the boards there are nearly so. Still some tipulids in the cans and on the Site I boards. Turned down a Brewer cocktail party in the

Maclean
1968

Journal

(23 July) evening to go to the movie, then over to the lab to measure insects and process birds.

24 July Barrow, Alaska

Cold, foggy, and windy. Pete took the weasel out to check traps, so I began counting the set of tanglefoots collected yesterday. Did site I, then sorted soo-samples and measured insects. In the afternoon, in a very strong wind, went out to area near FAA for new soo samples. Duplicated the 27 June sample 15/16. Next went out to check the site I insect traps. The can traps are still not quite at zero - 1 each ♂, ♀ Tipula, ♂ Pedicia.

In the evening began hand-sorting soo samples as Pete went out to check his traps. The lines produced 2 juv. phalaropes today - more evidence of fair breeding in this species.

25 July Barrow, Alaska

Still quite windy. I planned to try using the tape recorder on transects today to avoid fooling with paper in the wind. We were delayed by a malfunction (loose battery connection) in the machine, then went out to begin at V and quickly discovered that the wind obscured my voice in the machine. So I used paper.

Did habitat transects on V, VI, VII, & VIII as Pete picked up traplines, then went in. Collected a pair of goowits from the

Machea
1968

Journal

25 July) Drum Area ponds adjacent to camp. they look like marbled! no white rump, indistinct banding on tail, very large ♀; I'll have to look at specimens, tho, because if they are marbled they are far, far from home.

Spent the afternoon doing the remaining eight habitat transects. the warm, drying wind continues. gasline road is very dusty, and the vegetation for 150 m. westward is dust-covered. the ground is very dry. Pedicularis sudetica are in peak flower by lines IV A-B. I have been quite impressed by the flowers this year - especially their appearance as an orderly succession of conspicuous species. Next will be Pedicularis, whose leaves are growing rapidly.

tried the movie in the evening but it was terrible so we left, measured insect larvae under berlesses, and then to bed.

26 July Barrow, Alaska

Still windy, but much colder with fog coming in and out all day. (It is hard to see how it can be so windy and foggy simultaneously).

Spent the morning counting the last set of tanglefoots. Tipulids are way down at Site I and gone from Site II. the

Machean
1968

Journal

26 July) hymenopterans and brachycerans are coming up. Finished in time to write a few letters before heading for the field. took along Bruce Beebe - a high school teacher from Lompoc, Calif. who is somehow enjoying the facilities of the N.A.R.L.. So was too cold to enjoy it, so we just made a quick trip to site II, I, and in. Flock of pectorals still in Central Marsh, with some activity along the Beach Ridge now. Got a ♂ tipula from Emer. I-2!

Sorted some 300 samples, then came in after dinner to pur up one of the goodwits. As predicted, the stomach was full of large red chironomid larvae.

27 July

Barrow, Alaska

First pur up the remaining goodwit, then spent the rest of the morning sorting 300 samples. the funnels have not been doing well of late - there appears to be seasonal variation in the effectiveness of berlese extraction (which really doesn't seem too surprising). Went out in more cold, windy weather for 300 samples. Made a near duplication of 30 June II: just So. of Wohlsag Slough and West of the crossing. the water level in the slough was dangerously high due to onshore winds. took the other 8 samples from Central Marsh, ca. 400 m. NW of trapline VII and 100 m. west of a CRREL stake. Checked the insect

Macka
1968

Journal

27 July) traps - nothing, then came in.
For the evening Pete came up to our hut for a caribou-steak dinner. Had a very relaxing evening. topped it off by going down to the lab to sort 500 samples!

28 July Barrow, Alaska
Slept somewhat later than usual, then in to the lab to sort all of the 500 samples just removed from the funnels. Found something in just about every sample.
Bobby came in for dinner. Didn't want to go to a war movie at camp, so we drove out to shooting station and spent the evening visiting.

29 July Barrow, Alaska
Weather is suddenly warm again. Drove into Barrow to measure Alqeeks' floor to see how much floor tile is required. Wrote a letter to FAP, then counted the last tanglefoots. After preparing them again Pete and I went out to make the change. Found that someone has moved emergence trap II-3. the tipulids showed no noticeable response to the warm weather, which introduces the interesting question of how and when the "decision" to emerge as adults after 2 seasons or wait another season is made. How do they avoid responding to warm weather after the normal period of emergence?

Maclean
1968

Journal

(29 July) One problem is that there is no clear separation between large 2nd year and small 3rd year larvae; the size distribution is continuous.

In the evening - the usual - sorted 500 samples, the everpresent curse. Since they are doing so poorly we have been trying to sort 100%.

30 July <u>Barrow, Alaska</u>

The warm weather holds - but not quite as warm today. Wrote our July Progress Report, sorted the rest of the 500-samples, and had a conference with Her Director. Agreed to take a couple out to the tundra today.... in return for a trip to Meade River this week-end.

Went out right after lunch with Pete and Dr. & Mrs. Dr. Taylor - Dentists from Pasadena. Went out Gasline Road to repeat the last 500 sample site of the second series. Next walked over to Voth Slough to look for traplines XI & XII. We found them - I think. There are parallel rows of stakes about the correct distance for major stakes along the east edge of the slough.

Drove back through camp, then out to insect site I. Again - nothing in the traps. In the evening we began sorting the new set of 500 samples, then Edna and I went out to shooting station to visit. 4 eiders are beginning to appear in the flocks now.

Maclean
1968

Journal

31 July

Barrow, Alaska

Transect Day. Very uneventful; I, II, IIIA-B, & IVA-B in the morning, the rest in the afternoon. Even in the absence of significant precipitation the area seems to be slightly wetter - probably due to increasing melt depth and the absence of drying winds.

In the evening Bob Henshaw gave an uninspiring seminar on circulatory thermoregulatory mechanisms in wolves and wolverines. Sat and talked afterwards, then out to measure larvae, and so to bed.

1 August

Barrow, Alaska

Spent the morning reading the whole, damn set of tanglefoots again, then cleaned and re-dressed. Out to make the change. Still many semi-pals in Central Marsh and along wessel roads; pectorals in Central Marsh and on adjacent Beach Ridge. Golden Plovers have about disappeared from the Marsh.

In addition to the tanglefoot change we took 8 4-inch sod cores from Emergence traps II-1 & II-2 to see what remains after the emergence, and thus gain some idea of how many larvae are entering their 3rd year. Set up some of the larger berlese funnels to accomodate these.

In the evening I accompanied the

Maclean
1968

Journal

1 August) Ahgeaks to the funeral of Mamie Simmons in Barrow. It took longer than expected, shooting the whole evening.

2 August

Barrow, Alaska

Slept in a bit in the morning, then came in to sort 500 samples. Spoke with Brewer about trips to Fairbanks to begin laboratory processing of birds - it looks good for at least one trip.

Finished sorting last set of 500 samples, then sat down to plan optimal return from 500-sampling for the remainder of the season. Went out to begin 3rd series by taking samples at first site: flat at No. end of III A-B, and trough system under the new cake-eater. Placed these in funnels and sorted the last batch until dinner.

After dinner I attempted to put up a ♂ Spectacled Eider that Larry Hoar had found on the tundra. Found out, unfortunately far into the process, that it was too far gone to salvage. Gave up - went home to deodorize, then out to Birnirk for the remainder of the evening.

3 August

Barrow to Meade River Coal Mine, Alaska

Edna and I packed our gear for Meade River, then came to the lab to sort a 500 sample or two. When Aph

Meade
1968

Journal

3 August) began Delaying Edna & I made a hurried trip out to Emergence traps II-1 & II-2 to take 500 samples outside the traps corresponding to those taken inside two days ago. Returned and just had time to throw these in the extractors before going to the plane. After one false start - they forgot to give us the keys - we reached Meade River station about 2:15. Saw a number of snowy owls as well as the usual gulls and jaegers as we landed. It was quite warm there, with insect repellent a requisite.

Opened up the camp, ate a quick lunch, a short rest, then went out wandering aimlessly. About the only conspicuous land bird was the black-bellied plover - a pair in a full distraction sequence. Lots of Ground Squirrels out. Very few glimpses of sandpiper types - no Dowitchers at all. The tundra here is very, very dry; they have had no rain either. The river is quite low and not of much use in travelling. I won't bother with complete notes for the trip.

August — <u>Meade River</u> to <u>Barrow, Alaska</u>

Just as we arose saw a herd of ca. 200 caribou just across the river. Sporadic rain squalls today. The plane to take us back to Barrow came

Machean
1968

Journal

5 August) at noon, and we were back in Barrowby 1:00. After cleaning up, Pete and I went out for soo-samples across Wohlsag Slough. No trouble locating all 16 sites, then, as we left the farthest site of the soo sample series (Elson Bluffs) the track broke. Walked in carrying one set of samples, with a ford of Wohlsag Slough. Made it at 1830- and had to clean up all over again. It was cold, windy, and foggy as we walked in.

In the evening came in to place the samples in the funnels and sort some of the old ones.

August

Barrow, Alaska

Foggy and windy again. Transects today. Started at V & VI while Pete took the replacement wedsel out to the broken one to retrieve our belongings, then he left me at IX & X to go put the other soo samples into the funnels. In the afternoon he sorted and put up birds while I finished the transects. It is definitely getting wetter again, even without rainfall.

In the evening Drove up to shooting station to deliver the fish and caribou that we had brought back from

	AM	PM	EVE
7 W	soo samples - count tanglers	tanglers - bring in Emerg.	pluck birds
8 Th		~~tanglers~~ Soo samples	
9 Fr			
10 Sa			
11 Su	Pete & I - soo samples	to Fai	Fai
12 Mo	Fai	to Unalakleet	———
13 Tu	Unalakleet	to Barrow	transects - VII & VIII - then S.S.
14 W	transects - 4 pairs	Count tanglers - transects VII & VIII change tanglers;	Soo samples
15 Th			
16 Fr			
17 Sa	seal vials, pack books	Soo samples	
18 Su	transects	transects - set traps	movie

Machean
1968

Journal

6 August) Meade River. Lots of phalaropes in the ocean now; semi-pals and phalaropes in the ponds at Shooting Station.

7 August

Barrow, Alaska

Spent the morning sorting 500 samples, then counting the last set of tanglefoots. Were out in windy, but warm weather to make the change. Also checked the can traps - zero - and brought in emergence traps II-1 - 4. Pectorals abundant along the beach ridge - collected two. Came in to process these. ?

After dinner Pete & I went in to Hume's lab to pluck birds and weigh them at stages to determine plumage weight. I had to conclude that water loss during the plucking process is large enough to invalidate the weights. I'll have to settle for 3 plucked birds today, and weigh the feathers directly in the future.

8 August

Barrow, Alaska

MacLean
1968

29 August

Barrow to Fairbanks, Alaska

Departed Barrow at about 0100 via Wien, and arrived in Fairbanks at 0315. Went to Fairbanks Hotel for the night. At 1100 Dr. West picked us up. He drove us to campus to check into our room (818 Moore Hall), then to the IAB to begin work. Put specimens away and got things organized, then to lunch.

First job: prepare some insect material for qualitative fatty acid analysis. Mixed insects with $CHCl_3$ - Methanol (2:1) in waring blender, then poured into flask to stand over night. Did ♂ & ♀ Tipula, ♂ & ♀ ~~Prionocera~~ Pedicia. There may not be enough material to do adult Prionocera.

Checked the weights on the oven dry v. freeze-dry experiment with lab mice and Microtus; every one of the oven-dried specimens lost a larger % of original weight than the comparable freeze-dried specimen.

S. MacLean

1968 - 1969

feeding observation tables

SHOREBIRD FEEDING OBSERVATIONS

Sample: 19 July - Micro Met Area
001 a 17 f - w - 3/1-A-4/3-Co
15 peck + 2 ser jab 10 - 12 ea.

Observation number

Species:

a - Calidris alpina
b - C. bairdii
p - C. pusillus
m - C. melanotos
P.d. - Pluvialis Dominica
A.i. - Arenaria interpres
P.f. - Phalaropus fulicarius
others - improvise

Time: to last hour of 24 hour clock

Topography:

f - flat or gentle slope
lp - low polygon
rp - raised polygon
tr - trough
pe - pond edge
po - pond
m - mound
ch - channel
s - stream bank
(d) - any of above disturbed by man

Moisture:

pw - pond
sw - standing water (flooded tundra)
sat - saturated
w - wet
d - dry

Vegetation:

0 - bare or negligable
1 - 5-25%
2 - 26-50%
3 - 51-75%
4 - 76-100%

Evaluated separately for graminiform and broad-leaved herbs, and expressed as a fraction - graminiform/broad-leaved

Height:

In inches,
total height (to top of vegetation)
height of living vegetation(to top of green)

Lemming activity:

C_0, C_1, C_2, C_3 - no, light, moderate, heavy cutting
Gr - "grubbing"

Style:

peck, jab, probe

Machean
1968

Feeding observations

1 June — Beach Ridge

001	♂m	17	pe-sw-2/0-A-3/0-Co	collected-860
002	m	17	m-w-2/0-A-2/0-Co	
003	a	17	ch-s-3/0-A-3/0-Co	
004	a	17	ch-s-3/1-A-3/0-Co	
			ch-s-3/1-A-3/0-Co	
			ch-w-4/0-A-3/0-Co	
			by snow edge.	Collected.
005	a	17	tr-s-2/0-A-3/0-Co	
			f-w-3/0-A-3/0-Co	jdb
006	a	17	f-w-3/0-A-3/0-Co	jdb by snow edge
007	a	17	m-w-3/0-A-3/0-Co	
008	a	17	f-s-3/0-A-3/0-Co	jdb
009	a	17	m-s-2/0-A-3/0-Co	
			ch-s-3/0-A-4/0-Co	
010	a	18	m-w-3/0-A-3/0-Co	jdb
			m-w-1/2-A-3/0-Co	
			collected 2 birds.	
011	a	18	ch-s-2/1-A-3/0-Co	jdb
			ch-w-3/1-A-4/0-Co	jdb
			f-w-4/0-A-4/0-Co	jdb
012	a	18	m-w-2/1-A-3/0-Co	
			f-w-3/0-A-5/0-Co	jdb

2 June — Behind Brownsville

013	a	19	f-s-2/0-A-2/0-Co	jdb by snowbank
014	b	20	rp-w-1/1-A-4/0-Co	
			m-w-4/0-A-3/0-Co	peck

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Feeding observations

3 June			Voth Area		
[sic]	013	♂ m	14	lp - s - 3/0 - A - 4/0 - Co	shallow jab by snowbank. collected
[sic]	014	♂ m	15	lp - sw - 4/0 - A - 4/0 - Co	collected
	015	a	15	f - s - 2/0 - A - 4/0 - Co	
4 June			Beach Ridge		
	016	a	14	f - w - 2/1 - A - 2/0 - Co	
	017	a	16	dr - s - 4/0 - A - 4/0 - Co	
				m - s - 3/1 - A - 4/0 - Co	
				pe - s 3/0 - A - 4/0 - Co	
				f - w - 3/1 - A - 4/0 - Co	jab by snow
				f - s - 4/0 - A - 4/0 - Co	jab by snow
	018	a	20	f - s - 4/0 - A - 4/0 - Co	jab
	019	a	21	f - sw - 3/0 - A - 5/0 - Co	
	020	m	21	f - sw - 4/0 - A - 4/0 - Co	
5 June			transects -	trapline circuit	
	021	p	14	lp - s - 4/0 - A - 4/0 - Co	peck
				lp - s - 3/0 - A - 4/0 - Co	
				lp - s - 3/0 - A - 4/0 - Co	peck
	022	a	14	pe - sw - 3/0 - A - 1/0 - Co	jab
	022	♀ m	14	f - sw - 3/0 - A - 4/0 - Co	jab
				f - sw - 3/0 - A - 4/0 - Co	jab. collected
				SN 876	
	023	p	14	f - s - 2/0 - A - 2/0 - Co	
	024	♂ m	16	f - s - 4/1 - A - 4/0 - Co	jab
	025	b	16	f - w - 2/0 - A - 3/0 - Co	

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Feeding Observations

6 June		Ikroavik		
026	♂m	11	tr-w-3/0-A-4/0-Co	jab by snowedge
			lp-s-4/0-A-4/0-Co	
027	a	12	lp-s-3/1-A-4/0-Co	
			lp-s-4/0-A-4/0-Co	jab
028	m	12	f-sw-3/0-A-4/0-Co	
029	a	13	pe-s-3/0-A-0/0-C2	jab
7 June				
030	m	14	lp-w-4/0-A-4/0-C1	
			lp-w-4/0-A-4/0-Co	
031	a	14	lp-w-3/0-A-3/0-Co	
032	m	14	lp-w-3/0-A-3/0-Co	
033	a	21	lp-w-4/0-A-3/0-Co	
034	♂m	21	lp-w-3/0-A-4/0-Co	
035	♀m	21	tr-sw-2/0-A-3/0-Co	jab & probe
			tr-sw-2/0-A-3/0-Co	
			tr-sw-2/0-A-3/0-Co	
036	♂m	21	tr-s-4/0-A-6/0-Co	jab
037	a	21	lp-w-3/1-A-4/0-Co	
038	♂a	22	f-s-2/0-A-4/0-Co	
	♀a	22	lp-w-2/0-A-3/0-Co	
9 June				
040	b	14	lp-w-2/0-A-2/0-Co	
041	ai	14	lp-w-3/1-A-3/0-Co	
			lp-w-4/0-A-6/0-Co	
			f-sw-3/0-A-5/0-Co	
042	ai	14	lp-w-1/4-A-2/0-Co	peck & toss
			lp-s-3/1-A-3/0-Co	peck & toss

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Feeding observations

(9 June)	043	a	16	f-w-4/0-A-4/0-Co	by snow edge
	044	a	20	pe-sw-3/0-A-1/1-Cs	jdb
				lp-w-4/0-A-3/0-Co	
	045	Pd	20	po-pw-2/0-A-1/1-Cs	
	046	♂a	21	f-sw-3/0-A-5/1-Co	jdb.
10 June			Voth area		
	047	a	16	lp-w-2/0-A-4/0-Co	
				lp-w-3/0-A-5/0-Co	
	048	♂a	16	f-s-4/0-A-5/0-Co	by snow edge. score.
	049	♂m	16	f-sw-4/0-A-9/0-Co	just exposed.
				territorial bird-displayed.	
	050	b	17	m-w-3/1-A-4/0-Co	
				m-d-0/2-A-0/0-Co	
				m-d-3/0-A-4/0-Co	
				m-d-2/2-A-4/0-Co	
	051	a	20	lp-s-3/0-A-3/0-Co	
				lp-s-3/0-A-3/0-Co	shallow jdb
				lp-s-4/0-A-4/0-Co	
	052	♂m-flock	21	f-sw-3/0-A-4/1-Co	
				f-s-4/0-A-4/1-Co	SM 880
	053	♀a	21	pe-s-3/0-A-4/0-Co	jdb
				pe-s-3/0-A-4/1-Co	jdb
				pe-sw-3/0-A-4/1-Co	
	054	♂m	22	f-sw-3/0-A-4/0-Co	SM 881
	055	♂m-terr.	22	f-sw-3/0-A-4/0-Co	
11 June					
	056	a	14	f-sw-4/0-A-6/0-Co	

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Feeding observations

(11 June)	057	b	15	rp-w - 3/0-A - 4/1-Co	
				rp-d - 2/0-A - 2/0-Co	
	058	♀ m	15	f-s - 3/0-A - 4/0-Co	
	059	b	16	m-w - 3/1-A - 4/0-Co	
12 June					
	060	♂ m	13	pε-sw - 3/0-A - 5/0-Co	
				pε-s - 2/1-A - 5/0-Co	
				pε-sw - 4/0 A - 4/0-Co	
				pε-sw - 4/0-A - 4/0-Cr	
together				jab and probe	
	061	♀ m	13	f-s - 4/0-A - 4/0-Co	
				f-s - 3/1 A - 4/0-Co	
				pε-sw - 4/0-A - 4/0-Co	
	063	♀ m	16	lp-s - 4/0-A - 4/0-Co	
				f-sw - 3/0-A - 4/0-Co	
				f-sw - 3/0 A - 4/0-Co	
				f-s - 3/1-A - 3/0-Co	by snow edge.
		Collected: SM886		tr-sw - 4/0-A - 4/0-Co	
13 June	064	♂ m	14	tr-sw - 3/0-A - 6/0-Co	
				tr-sw - 4/0-A - 5/0-Co	
	065	a	14	lp-w - 4/0-A - 3/0-Co	jab
	066	♂ m	16	f-sw - 4/0-A - 4/0-Co	
	067	a	16	f-sw - 3/0-A - 3/0-Co	
	068	b	17	m-s - 1/2-A - 3/0-Co	
15 June					
	069	♀ m	16	pε-s - 3/0-A - 5/0-Co	jab
		(from flock)		tr-w - 3/0-A - 5/0-Co	jab
				f-sw - 3/0-A - 3/0-Co	jab

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1968

Feeding observations

(15 June)	070	b	20	lp-s-2/0-A-4/0-Co	
				lp-w-3/0-A-3/0-Co	
	071	b	21	lp-w-3/0-A-3/0-Co	
	072	♂m	22	f-sw-3/0-A-4/0-Co	jab.
		collected - SM 889			
	073	♀m	22	f(pe)-sw-3/0-A-4/0-Co	collected SM 891.
18 June	074	p	16	lp-s-3/0-A-3/0-Co	
Village Ridge				lp-s-2/0-A-3/0-Co	
	075	♂m	16	tr-s-2/0-A-4/0-Co	jab
				f-s-2/0-A-4/0-Co	
				f-sw-3/0-A-4/0-Co	
	076	♂m	17	f-sw-3/0-A-4/0-Co	
				f-s-3/0-A-4/0-Co	jab.
9 June					
	077	♂m	15	f-s-4/0-A-5/0-Co	jab. collected 2: SM 896, 897.
	078	♂m	16	tr(pe)-sw-4/0-A-5/0-Co	
				f-w-2/2-A-4/1-Co	jab - success.
20 June					
Drum Brae	079	♂m	13	tr-sw-3/0-A-4/1-Co	
22 June					
	080	♂m	13	f-sw-4/0-A-3/0-Co	
	081	♀m	13		
	082	Pd	13	f-sw-4/0-A-4/1-Co	
	083	♂m	13	f(pe)-sw-4/0-A-4/0-Co	
	084	♂m	14	f(pe)-sw-4/0-A-3/0-Co	collected
	085	♂m	14	f-s-4/0-A-4/0-Co	jab & probe. collected.

Machea
1962

Feeding Observations

22 June	086	Pd	14	f-sw-4/0-A-3/1-Co	
	087	♂m	14	f-sw-4/0-A-3/1-Co	
	088	♂m	14	tr(pe)-sw-4/0-A-3/1-Co	collected
	089	♀m	15	tr-s-4/0-A-5/1-Co	jab.
	090	♂m	20	f-sw-4/0-A-4/0-Co	
				f-s-4/0-A-3/0-Co	
	091	♀m	20	tr(pe)-s-4/0-A-3/0-Co	
	092	♂m	20	f-sw-4/0-A-4/1-Co	jab+probe collected
sic	094	♂b	21	f-s-3/1-A-3/1-Co	jab
				tr-w-3/1-A-4/0-Co	
				lp-d-1/3-A-2/1-Co	
23 June					
IV & V	095	♂m	13	f-sw-4/0-A-4/0-Co	
	096	♂m	14	f-s-4/0-A-4/1-Co	collected (2 from flock - SN 911, 912)
24 June					
	097	♂m	20	tr(pe)-sw-3/0-A-5/0-Co	
				lp-w-3/0-A-5/1-Co	
25 June					
A-B	098	♀P.d.	13	lp-w-2/0-A-4/2-Co	
				tr-s-3/0-A-3/2-Co	
				f-sw-3/0-A-3/2-Co	
27 June					
	099	♂m	09	f-s-4/0-A-4/2-Co	
	100	♂m	10	f-s-4/0-A-3/1-Co	
	101	♂Pd	10	f(pe)-sw-3/0-A-4/1-Co	
	102	♂m	10	f-sw-3/0-A-4/1-Co	jab.

Machea
1968

Feeding Observations.

[27 June] 103	p	11	rp-w-1/0-A-2/2-Co	peck
			m-w-2/0-A-3/2-Co	
			tr-w-3/1-A-3/2-Co	
			tr-w-2/1-A-3/2-Co	
			tr-w-3/1-A-3/2-Co	
104	♀ P.d.	11	f(pe)-sw-4/0-A-4/2-Co	
			f-sw-4/0-A-3/1-Co	
105	♂ Pd	11	f-sw-4/0-A-4/1-Co	
106	♀ m	20	f-sw-4/0-A-4/1-Co	
28 June				
107	b	14	rp-w-2/0-A-5/3-Co	
sic 107	p	14	lp-w-3/0-A-4/2-Co	
29 June 108	Pd	14	ch-s-4/0-A-3/0-Co	
			f-sw-4/0-A-4/0-Co	
			f-sw-3/0-A-3/1-Co	
			collected 1 (SM 925) out of flock of 8.	
109	♂ m	16	f-sw-3/0-A-4/1-Co	collected-SM 926.
110	b ♂+♀	17	lp-w-3/0-A-3/2-Co	
			lp-w-4/0-A-2/1-Co	
111	b	16	f-sw-4/0-A-4/2-Co	
30 June				
112	♂ m	16	f-sw-4/0-A-5/2-Co	
1 July				
113	b	14	pe-sw-3/0-A-3/0-Co	
114	p	14	pe-s-3/0-A-3/0-Co	
115	Pd.	22	f-s-4/0-A-4/1-Co	collected-SM 934

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Feeding observations

2 July 116	b	17	pε-sw-0/0-B-0/0-Co	collected-M436 from flock.
117	p	17	pε-s-0/0-B-0/0-Co	" collected from flock - w/ 116 above.
3 July				
118	b	10	pε-sw-0/0-B-0/0-Co	
119	♂ m	14	pε-sw-3/0-A-4/1-Co	collected
120	a	14	lp-s-2/0-A-3/1-Co	job. collected
121	a	14	tr-sw-4/0-A-5/1-Co	collected
sic 121	m	14	pε-sw-4/0-A-4/1-Co	job & probe
122	m	14	pε-sw-3/0-A-4/1-Co	job & probe. collected.
123	♂ Pd	16	f-sw-4/0-A-3/1-Co	
			tr-w-3/0-A-2/1-Co	
			m-w-4/0-A-3/1-Co	
			m-w-4/0-A-4/2-Co	
			f-s-3/0-A-3/1-Co	
			f-sw-2/0-A-4/2-Co	
6 July 124	♂ m	15	tr-w-4/0-A-3/2-Co	
11 July 125	♂ Pf w/ 4 Juvs	14	f-s-4/0-A-5/4-Co	
13 July 126	♀ m. w/ juvs	11	tr-w-3/0-A-5/4-Co	peck
			tr-s-3/0-A-6/6-Co	

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S. MacLean

1968 - 1969

insect samples

Machean
1968

Berlese Results

9 June — Bank I — 8 cores from tr f-sw and tr f-s under new cake-eater site:

Hand sorted

→ #1: 1 Prion. (28mm), 1 Ped. (16mm), 1 Ped. (20mm)

→ 2: { * 3 Ped (16, 10, 10mm)
1 Ped. (20mm), 3 Ped (19, 15, 12mm), 2 Ped. (11, 12mm)

→ 3: 1 Ped. (20mm), 2 Ped. (18, 19mm), * 1 Ped (9mm)

→ 4: 1 Tipula (24mm), 1 Ped. (18mm)

→ 5: 1 Ped. (10mm)

→ 6: 1 tip. (10mm)

→ 7: 1 Ped. (20mm) + 1 Ped. (10mm), * 1 Ped (17mm)

→ 8: 1 Ped. (15mm)

*: found by hand sorting after 3 days.

II — 8 cores from f-sw-3/0-A-9/0-Co near No. end of lines IV A-B.

→ #9: 1 Ped. (10mm)

→ 10: 1 Ped. (10mm) + 1 Ped. (10mm) + 1 Ped. (10mm), * 1 Tip (18mm)

→ 11: { 1 Ped. (10mm) + 4 Ped. (12, 12, 11, 10mm) + 2 Ped (11, 9mm) + 2 Ped (11, 9mm) + 1 Tip. (7mm)

→ 12: 1 Ped. (11mm)

→ 13: * 1 Ped (11mm)

→ 14: { * 1 Ped (12mm)
1 Ped. (17mm), 1 Ped. (17mm), 1 Ped. (11mm), 1 Ped (9mm)

→ 15: 2 Ped. (12, 9mm), 1 Ped (12mm), * 1 Ped. 8mm

→ 16: 1 Ped. (17mm), 1 Tip. (23mm)

*: found by hand sorting after 3 days in extractor. (all samples were hand-sorted.)

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Berlese Results

12 June

Bank I — 8 cores from f-sw-4/0-A-4/0-6 and f-s ... So. bank of Wohlslag. Recently exposed.

→ # 1: 1 Ped (18 mm), * 1 Tip. (17 mm), * 1 Ped (13 mm)

(all hand sorted) → 2: 1 Ped (19 mm), 1 Ped. (16 mm)

→ 3: 1 Ped. (12 mm)

→ 4: 2 Ped. (19, 11 mm)

→ 5: 1 Ped. (12 mm)

→ 6:

→ 7:

→ 8: 4 Ped. (20, 19, 18, 18 mm), 1 Ped. (12 mm), * 1 Ped (11 mm)

II — 8 cores from tr-sw-3/1-A-4/0-6 and tr-s-... Elson Bluffs, So. of Wohlslag. ~~[illegible]~~

(hand sorted) → # 9: 3 Ped. (13, 10, 10 mm), 2 Ped (13, 11 mm), * 2 Ped. (12, 10 mm)

10: 1 Ped (9 mm), 4 Ped. (12, 8, 9, 16 mm), 2 Ped. (11, 11 mm)

11: 1 Ped. (16 mm), 1 Ped (10 mm), 2 Ped. (10, 10 mm)

→ 12: 1 Ped. (6 mm), 2 Ped. (10, 10 mm)

→ 13: 1 Ped. (10 mm), * 2 Ped. (11, 10 mm)

→ 14: { 2 Ped. (11, 9 mm), * 1 Ped (10 mm)
{ 2 Ped. (11, 11 mm), 2 Ped. (11, 18), 4 Ped. (10, 11, 11, 12 mm)

15: 2 Ped (12, 9 mm), 2 Ped. (11, 11 mm), 1 Ped (10 mm)

16: 5 Ped. (19, 17, 15, 12, 12 mm), 1 Ped (17 mm), 2 Ped (11, 9)

* - found by hand sorting after extraction

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Berlese Results

12 June

Bank I — 8 cores from f-sw-4/0-A-4/0-Co and f-s ... So. bank of Wohlslag. Recently exposed.

→ # 1: 1 Ped (18mm), * 1 Tip. (17mm), * 1 Ped (13mm)

(all hand sorted)

→ 2: 1 Ped (19 mm), 1 Ped. (16mm)

→ 3: 1 Ped. (12 mm)

→ 4: 2 Ped. (19, 11 mm)

→ 5: 1 Ped. (12 mm)

→ 6:

→ 7:

→ 8: 4 Ped. (20, 19, 18, 18 mm), 1 Ped. (12mm), * 1 Ped (11 mm)

II — 8 cores from tr-sw-3/1-A-4/0-Co and tr-s-... Elson Bluffs, So. of Wohlslag. ~~[illegible]~~

(hand sorted) → # 9: 3 Ped. (13, 10, 10 mm), 2 Ped (13, 11 mm), * 2 Ped. (12, 10 mm)

10: 1 Ped (9 mm), 4 Ped. (12, 8, 9, 16 mm), 2 Ped. (11, 11 mm)

11: 1 Ped. (16 mm), 1 Ped (10 mm), 2 Ped. (10, 10 mm)

→ 12: 1 Ped. (6 mm), 2 Ped. (10, 10 mm)

→ 13: 1 Ped. (10 mm), * 2 Ped. (11, 10 mm)

→ 14: { 2 Ped. (11, 9 mm), * 1 Ped (10 mm)
{ 2 Ped. (11, 11 mm), 2 Ped. (11, 18), 4 Ped. (10, 11, 11, 12 mm)

15: 2 Ped (12, 9 mm), 2 Ped. (11, 11 mm), 1 Ped (10 mm)

16: 5 Ped. (19, 17, 15, 12, 12 mm), 1 Ped (17 mm), 2 Ped (11, 9)

* - found by hand sorting after extraction

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Berlese results

15 June — Bank I — 8 cores from low polygon system — tr-sw and f-sw from center.

#1 - 1 Ped. (11mm)

(Hand sorted) → 2 -

3 -

→ 4 - * 1 Ped (9mm)

→ 5 - 2 Ped (11, 12mm)

6 - 1 Prion (9mm)

→ 7 - 1 Tip. (24mm)

8 - 1 Ped. (17mm)

II — 8 Cores from f-sw - in Central Marsh. near feeding melanotos.

9 - 1 tip (12mm)

(Hand sorted) → 10 - * 1 Ped (8mm)

→ 11 - 1 Ped (17mm), 1 Ped (12mm), * 1 Ped. (19mm)

12 - 1 Ped (12mm), 2 Ped (12, 19mm)

→ 13 - 1 Ped (13mm), 2 Ped (10, 12mm), * 2 Ped (16, 13mm)

→ 14 - 1 Ped (11mm)

spot chosen by feeding melanotos

15 - { * - 4 Ped (17, 12, 10, 10 mm)
1 Ped (16mm), 2 Ped (11, 10mm), 2 Ped (11, 11mm)

16 - 3 Ped (20, 18, 10mm), 2 Ped (20, 18), * 3 Ped (16, 13, 9mm)

* - found by hand sorting after extraction. Note very poor extraction efficiency. these samples stopped producing quite

early in the 3-day run - produced nothing in the last 24 hours. Sample # 16 was quite dry when hand sorted, yet yielded 3 P<u>edicia</u>. thus, I do not think that prolonging the period of time in the extractor is the answer. Some larvae, apparently, just wont come out by this technique.

Tried Safriel's hot water technique on # 10, 11, 15, 16 of the previous batch (collected 12 June) - did not extract anything.

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Berlese results

	Bank	
18 June	I	8 cores from low polygon trough system - tr-sw, tr-s, f-sw, f-s - inland from Navy radio van.
hand sorted	→ # 1	- 1 Ped. (16mm), 1 Ped (18mm), * 1 Tip (15mm)
	→ 2	-
	→ 3	- 3 Ped (18, 18, 17mm)
	→ 4	- { 1 tip (10mm), * 3 tip (22, 10, 4mm), * 4 Ped (9, 8, 7, 6mm) / 1 Ped (21mm), 1 tip (18mm), 1 tip (12mm), 1 Ped (16mm), 1 Ped (10mm)
	→ 5	- 2 Ped. (15, 10mm), 1 Ped (10mm), 1 Ped (15mm)
	→ 6	-
	→ 7	- 1 Ped (18mm), 2 Ped (11, 11mm), 1 Ped (10mm), * 2 Tip (19, 25mm)
	→ 8	- 1 Ped (16mm), 1 Tip. (15mm), 2 Ped (16, 17mm), 1 Ped. (10mm)
	II	8 cores from f-sw and f-s, near above.
	→ # ~~8~~ 9	- { 3 Ped (9, 11, 12mm) / 3 Ped. (11, 11, 11mm), 2 Ped (10, 11mm), 1 Ped (11mm)
	~~8~~ 10	-
	→ ~~8~~ 11	- { 1 Ped (12mm) / 3 Ped (13, 12, 11mm), 1 Ped (11mm), 1 Ped (9mm), 4 Ped (13, 12, 11, 10)
	→ ~~8~~ 12	- 1 Ped. (21mm), 2 Ped (10, 11mm), 1 Ped (13), 1 Ped (11mm)
	→ ~~8~~ 13	- { 3 Ped (10, 10, 11mm), * 3 Ped (12, 12, 10mm) / 1 Ped (16mm), 5 Ped (11, 12, 10, 11, 10mm), 1 Ped. (9mm)
	→ ~~8~~ 14	- { 1 Ped (11mm), 1 Ped (11mm), * 1 Ped (13mm) / 1 Ped (15mm), 6 Ped (9, 11, 13, 17, 17, 19mm), 1 Prion (25mm)
	→ ~~8~~ 15	- { * 2 Ped (18, 10mm) / 1 Ped. (17mm), 2 Ped (11, 10mm), 1 Ped (11mm), 3 Ped (13, 11, 10)
	16	- 3 Prion. (20, 24, 28mm), 1 Ped (13mm)

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Berlese Results

	Bank	
21 June	I	8 Cores from flat - #1-4 correspond to tanglefoot II # 6 - f-s-3b A. ; #5-8 correspond to tanglefoot II # 5 - f-sw-3b... both in central Marsh.

#1 - 1 Peo (10mm), 1 Peo (11mm), 1 Peo (13mm)

Hand sorted → 2 - * 1 Peo (10mm)

3 - 1 Peo (10mm), 1 Peo (9mm)

→ 4 - 1 Peo (16mm), 2 Peo. (12, 11mm), * 1 Peo (11mm)

5 - 1 Peo (12mm)

→ 6 - 2 Peo (11, 17mm), * 2 Peo (9, 7mm)

→ 7 - 2 Peo. (11, 12mm), 1 Peo (11mm), * 6 Peo (8, 9, 9, 10, 10, 10 mm)

→ 8 - * 1 Peo (11mm)

	II	8 cores from tr-sw and tr-s - South end of Beach Ridge.

#9 - 1 Peo. (21mm), ~~1 Peo (14mm)~~

→ 10 - 1 Peo. (18mm), * 1 Peo (15mm)

→ 11 - 2 Peo. (18, 12mm)

12 - 1 Peo (13mm)

13 -

→ 14 - 4 Peo. (23, 21, 17, 11mm), 1 Peo (16mm)

15 -

→ 16 - 1 Peo (10mm), 1 Peo (10mm)

Note: these were too wet going into extractors and were quite wet after 3 days - esp. bank I.

Macheen
1968

Berlese results

24 June

Both sets of samples from areas where pedorals have concentrated over past 3 days –

I – 8 cores – f-sw – 4/0-A-5/1-Co – No. of Gosline Ridge

Hand sorted → #1 – 4 Ped (15, 16, 17, 20 mm)

2 – 1 Ped (11 mm)

→ 3 – 2 Ped (17, 16 mm) ♂

4 – { 2 Ped (11, 11 mm), 1 Ped pupa, 1 Ped (10 mm), 2 Ped (12, 19 mm)
5 Ped (15, 16, 18, 18, 18 mm), 1 Ped (19 mm), 1 Ped (9 mm)

→ 5 – 1 Ped. pupa ♂, 1 Ped (17 mm), * 1 Ped (10 mm)

6 – 1 Ped (17 mm), 1 Ped (11 mm), 1 Ped (11 mm)

→ 7 – { ~~1 Tip (~~ * 1 Prion (22 mm), * 1 Ped. pupa ♀. ♀♀
2 Ped (16, 18 mm), 4 Ped (16, 15, 10, 9), 2 Ped pupae, 1 Ped (9 mm)

8 – 1 Prion (26 mm), 1 Ped (14 mm), 1 Tip (10 mm)

II – 8 cores – f-sw – 3/0-A-6/1-Co – East of traplines IX & X.

9 – 1 Prion (25 mm), 1 Ped (10 mm)

→ 10 – { * 1 Ped (9 mm)
3 Ped (17, 10, 10 mm), 1 Ped (10 mm), 2 Ped (11, 10 mm), 1 Ped (10 mm)

11 – 2 Ped (18, 17 mm)

→ 12 – 1 Ped (10 mm), 1 Ped (15 mm)

13 –

→ 14 – 2 Ped (10, 10 mm), 1 Ped (12 mm)

15 – 1 Ped (10 mm)

→ 16 – 1 Ped (15 mm), 1 Ped (10 mm), 1 Ped (7 mm)

Note sex ratio in pupae: 2 ♂♂, 2 ♀♀ extracted, + ♀ hand sorted.

Machean
1968

Berlese results

27 June

Bank I - 8 cores from f-sw and f-s - 4/0-A - 4/2-Co - So. of FAA, No. slope of ridge. No birds feeding here at the time.

Hand sorted → #1 - 2 Peo (17, 18mm)

→ 2 - 1 Peo (18mm), 1 Peo (18mm)

3 -

4 -

5 - 1 Peo (18mm)

→ 6 -

7 - 1 Peo (17mm)

→ 8 - 1 Prion (30mm), 2 Peo (18, 17mm), 1 Peo (18mm)

II - 8 cores from polygon trough system on ridge, just So. of above - tr-sw, tr-s

→ # 9 -

→ 10 -

11 - 1 Prion (20mm), 1 Peo (12mm)

→ 12 -

13 - 1 Peo (10mm), 1 Peo (11mm)

14 - 1 Peo (11mm), 1 Peo (9mm)

15 - 2 Prion. (21, 18mm), 1 Prion (23mm), 1 Prion (15mm)

→ 16 - 3 Prion. (37, 32, 20mm!), 3 Peo (19, 19, 17mm)

note: hand sorting also yielded 2 Peo. (5mm)

Maclean
1968

Berlese samples

30 June

Bank I : 8 cores from Central Marsh - f-s - 4%-A-5% - where C. melanotos was feeding earlier.

Hand sorted → #1 - *1 Peo (12mm)

2 - 1 Peo Pupa ♀,

→ 3 - 1 Peo (11mm), 1 Peo (18mm)

4 -

5 -

→ 6 - 2 Peo (11, 10mm), 1 Peo (11mm), 1 Peo (10mm), *4 Peo (5, 10, 12, 13mm)

→ 7 -

→ 8 - 1 Peo (19mm), 1 Peo (16mm)

II : 8 cores - So. bank of Wohlsleg Slough.
9-12 : f-s - 4% A - 4% - Co ; 13-16 : f-sw - 3% -
center of poorly developed low center polygon, very mossy.

#9 - 1 Peo (11mm)

→ 10 - 2 Peo (16, 12mm), 1 Peo (12mm), *1 Peo (11mm)

→ 11 - 2 Peo (20, 18mm)

→ 12 - 1 Peo (20mm)

13 -

→ 14 - 2 Peo (17, 17mm), 1 Peo. Pupa ♀), 1 Peo (17mm), *1 Peo (12mm)

15 - 1 Peo (13mm)

→ 16 - 1 Peo (18mm), *3 Peo (13, 13, 16mm)

Machen
1968

Berlese Results

3 July

Bank

I - 8 cores from f-sw - 4/0 A - 5/2-Co, f-s - 4/0 ... East of Gasline Road, So. of Voth Creek crossing. No birds here.

→ # 1 -

→ 2 - * 1 Ped (13mm)

→ 3 -

4 -

→ 5 - 1 ♂ Ped Pupa, 1 Ped (11mm)

6 -

→ 7 - { * 1 Prion (30mm) * 1 Ped (10mm)
{ 1 Prion (37mm!), 3 Prion (37, 28, 26 mm), 1 Ped (17mm), 1 Ped ♂ P.

→ 8 - 1 Prion (30mm), 1 Prion (30mm), 3 & (P ad) ♂ Ped

II - 8 cores from tr-sw - 4/0-A - 5/3-Co, pe - sw - 3/0 - A - 4/1-Co ... just West of Gasline Road, So. of Voth Creek. Flock of pectorals feeding here.

→ # 9 -

→ 10 - 3 Ped (17, 17, 17mm) ; * 1 ♂ ad. Pedicia

→ 11 - 2 Ped (17, 19mm), 1 Ped (11mm), 2 Ped (11, 11mm)

→ 12 - 1 Ped (18mm), 1 Prion (24mm), 1 Ped (10mm), * 1 Ped (15mm)

13 - 1 Ped (22mm), 1 Prion (19 mm)

14 -

→ 15 - 1 Ped (9mm), 1 Ped (17mm)

→ 16 - 1 Prion (32mm), 1 Ped (17mm)

MacLean
1958

Berlese results

Duplicates 9 June

6 July

Bank

I : Duplicates 9 June I approximately

→ #1 - 1 Ped (17mm), 1 Ped (20mm), 1 ♀ Tip. pupa, * 1 Ped (18mm)

→ 2 - 4 Ped (18, 18, 17, 17mm), 1 Ped (7mm)

3 - 1 Ped (5mm)

4 -

5 -

→ 6 - 1 Ped (17mm)

→ 7 - 1 Ped (20mm)

8

II : Duplicates 9 June II exactly

#9 - 1 Ped (20mm)

→ 10 -

11 -

→ 12 - 2 Ped (6mm), 1 Ped (4mm)

→ 13 - 1 Ped (19mm)

→ 14 - 1 Ped (13mm), 1 Ped (14mm), 2 Ped (7mm), * 2 Ped (9, 5mm)

15 -

→ 16 - 1 Ped (7mm)

Note: on 10 June hand sorted 6 cores taken to permafrost with 4 inch dia. corer. these produced a total of 1 Ped (11mm). this was at a depth included in normal sample. Conclusion: small larvae have not gone deeper in soil.

Madison
1968

Berlese results

Bank

9 July

I Duplicates 12 June I exactly. f

→ #1 - 1 Ped. Pupa ♀,

→ 2 - { * 1 Ped (14mm)
1 Ped (16mm), 2 Ped (17, 13mm), 1 Ped (12mm), 1 Ped (15mm)

→ 3 - 1 Ped (16mm), * 2 Ped (15, 9mm)

→ 4 - * 1 Ped (12mm)

→ 5 - 1 Ped (12mm), 1 Ped (17mm), * 3 Ped (12, 12, 9mm)

→ 6 -

→ 7 - 1 Ped (11mm), 1 Ped (12mm), * 4 Ped (16, 12, 10, 10mm)

→ 8 - 1 Prion Pupa ♀, * 1 Ped (17mm)

II Duplicates 12 June II exactly. tr.

#9 - 1 Ped (7mm), 1 Ped (7mm), 2 Ped (6, 6mm)

→ 10 -

11 - 1 Ped (7mm), 1 Ped (5mm)

12 - 1 Ped (15mm), 1 Ped (6mm), 1 Ped (6mm)

→ 13 - 1 Ped (21mm), 2 Ped (8, 6mm), * 2 Ped (8, 7mm)

→ 14 - 1 Ped (7mm)

→ 15 - { * 2 Ped (7, 7mm)
1 Ped (19mm), 1 Ped (17mm), 3 Ped (7, 7, 7mm), 1 Ped (6mm)

→ 16 - 1 Ped (15mm), 1 Ped (16mm), * 3 Ped (7, 7, 6mm)

Maclean
1968

Berlese results

12 July

Bank

I : 8 cores from Holmes' Morass - f-s - 3/0...
in line w/ and 100 m. E. of trapline V.

Hand sorted

→ #1 -

→ 2 -

3 - 1 Peo. Ao. ♀

4 - 1 Peo (17mm)

→ 5 - 1 Peo Ao. ♀

6 - 1 Prion (36mm)

7 -

→ 8 -

II : 8 cores from low polygon trough
system - tr-w and tr-s 3/0-A - 40 m.
S. of above.

#9 -

10 -

→ 11 -

12 - 1 Peo (8mm)

→ 13 - 1 Peo (20mm), 1 Peo (6mm)

→ 14 - 1 Prion. (25mm), 1 Prion. (22mm)

15 -

→ 16 -

Maclean
1968

Berlése results

15 July — Bank I : Duplicates 18 June I approximately. tr inland from Navy communications van.

#1 -

Hanoi sortes → 2 -

3 - 1 Peo (16mm), ~~[illegible]~~

→ 4 -

5 -

→ 6 - 1 Peo (18mm)

7 -

→ 8 -

II : Duplicates 18 June II exactly. Now f-w-4/0 and 4/1 ...

→ #9 - 1 Prion (24mm), 1 Peo (14 mm)

→ 10 - 2 Peo. (15,17mm)

→ 11 - 1 Peo (16mm), * 2 Peo (15,6mm)

→ 12 - { * 1 Peo (15mm) / 3 Peo (14,16,16mm), 1 Peo (15mm), 1 Peo (14mm), 1 Prion (26mm) }

→ 13 - 1 Peo (16mm), 1 Peo (13mm), 1 Peo (11mm), 2 Peo (15,14mm)

→ 14 - { 1 Peo (12mm), * 4 Peo (13,13,14,16 mm) / 1 Peo (14mm), 8 Peo (12,13,14,14,14,15,15,16mm), 1 Feo (12mm) }

→ 15 - 1 Peo (15mm), 1 Peo (14 mm), 1 Peo (16mm)

→ 16 - 1 Peo (16mm), 1 Peo (14mm), * 2 Peo (11,13mm)

Macher
1968

Berlese results

18 July

Bank I : Duplicates 21 June I exactly.
Both now f-s -

→ # 1 - * 1 Peo (11mm)

Hano-sarteo → 2 - 1 Peo (20mm), 1 Peo (17mm), * 1 Peo (13mm)

→ 3 - { * 2 Peo (13,14mm)
1 Peo (21mm), 1 Peo (12mm), 1 Peo (12mm), 2 Peo (15,10mm)

→ 4 -

→ 5 -

→ 6 - 1 Peo (6mm), * 2 Peo (18,6mm)

→ 7 - * 2 Peo (10,13mm)

→ 8 - * 3 Peo (12,12,13mm)

II : Duplicates 21 June II exactly.

→ # 9 - * 2 Peo (17,15mm)

→ 10 - 2 Peo (12,12mm), 1 Peo (12mm), 1 Peo (6mm), * 2 Peo (18,13mm)

→ 11 - 1 Peo (6mm)

→ 12 - 1 Peo (14mm), 1 Peo (15mm), * 1 Peo (7mm)

→ 13 - 1 Peo (7mm), * 1 Peo (18mm)

→ 14 - 1 Peo (13mm), 1 Peo (14mm), 1 Peo (9mm), * 2 Peo (14,13mm)

→ 15 - 1 Peo (17mm), 2 Peo (7,5mm), 2 Peo (22,14mm), 1 Peo (7mm)

→ 16 - 1 Peo (5mm)

Maclean
1968

Bierlése results

Bank

21 July

I Duplicates 24 June I approximately - f-s- 4/0-A - quite mossy.

→ #1 - ϕ

→ 2 - ϕ

→ 3 - * 3 PED (6, 7, 8 mm)

4 -

→ 5 - 1 PED (15 mm), * 3 PED (14, 13, 10 mm)

→ 6 - 1 PED (20 mm), * 1 PED (6 mm)

→ 7 - ϕ

→ 8 - * 1 PED (7 mm)

II Duplicates 24 June II exactly.

→ #9 - 1 PED (7 mm), * 1 PED (16 mm)

→ 10 - 2 PED (20, 19 mm), 1 PED (8 mm), 1 PED (6 mm), * 2 PED (19, 7 mm)

→ 11 -

→ 12 - { * 2 PED (6, 6 mm)
1 PED (17 mm), 2 PED (8, 6 mm), 1 PED (11 mm), 1 PED (7 mm)

13 -

14 - 1 PED (14 mm)

→ 15 - 3 PED (20, 9, 5 mm), 2 PED (8, 8 mm), * 1 PED (8 mm)

→ 16 - 1 PED (16 mm), 1 PED (7 mm)

Maclean
1968

Berlese samples

24 July

Bank
I : Duplicates 27 June I exactly. f-w...

→ #1 - 1 Ped (12 mm), * 1 Ped (8 mm)

→ 2 - 1 Ped (18 mm), 1 Ped (7 mm), * 3 Ped (19, 7, 6 mm)

→ 3 - * 1 Ped (19 mm)

→ 4 - * 1 Ped (17 mm)

→ 5 - * 1 Ped (18 mm)

→ 6 - 2 Ped (9, 9 mm), * 2 Ped (7, 8 mm)

→ 7 - 1 Ped (7 mm), 1 Ped (5 mm), * 2 Ped (17, 17 mm)

→ 8 - 1 Ped (19 mm) * 2 Ped (18, 9 mm)

II : Duplicates 27 June II 7/8 exactly, 1/8 approximately. tr-w & tr-s...

→ #9 - 1 Prion (34 mm), 2 Ped (14, 10 mm), 1 Ped (8 mm), 1 Ped (10 mm)

→ 10 - 1 Ped. (16 mm), * 1 Ped (18 mm)

→ 11 - { * 2 Ped (9, 9 mm)
1 Prion. (36 mm), 1 [illegible] (9 mm), 1 Ped (9 mm), * 2 Prion (26, 22 mm [illegible] mm)

→ 12 - 1 Ped (17 mm), 1 Ped (6 mm), 1 Ped (8 mm), * 1 Ped (7 mm)

→ 13 - 1 Ped (7 mm), * 1 Ped (18 mm)

→ 14 - 1 Prion (23 mm), 1 Ped (8 mm), * 1 Ped (8 mm)

→ 15 - 1 Tip. (8 mm), 1 Ped (8 mm), 1 Ped (7 mm), * 2 Ped (17, 18 mm)

→ 16 - * 2 Ped (9, 11 mm)

Macbean
1968

Berlese results

Bank

27 July

I : Approximate duplicate of 30 June I ; from Central Marsh - ca. 100 m. West of CPBL Stake, 400 m. North West of trapline VII

→ #1 - 1 Peo (14mm), 1 Peo (7mm)

→ 2 - 1 Peo (16mm)

→ 3 - ∅

→ 4 - * 3 Peo (6, 9, 13mm)

→ 5 - 1 Peo (13mm), 1 Peo (14mm)

→ 6 - ∅

→ 7 - ∅

→ 8 - ∅

II : #9 - 11 - exact duplicate of 30 June II ;
#12-16 - approximate duplicate of 30 June II.

→ #9 - * 2 Peo (17, 14mm)

→ 10 - * 1 Peo (16mm), * 1 Prion (6mm)

→ 11 - ∅

→ 12 - 1 Peo (9mm), 1 Peo (7mm), 1 Peo (8mm), * 2 Peo (12, 13mm)

→ 13 - 1 Peo (8mm)

→ 14 - * 1 Peo (12mm)

→ 15 - { 4 Tip (8, 7, 7, 6mm), 1 Prion (7mm), 1 Prion (7mm)
1 Peo (17mm), 1 Tip (13mm), 1 Tip (7mm), 1 Peo (6mm) }

→ 16 - ∅

[illegible] larvae [illegible] Tip
[illegible] Tip [illegible] maybe Prion.
[illegible] carefully

Maclean
1968

Berlèse results

30 July

Bank

I : Exact duplicate of 3 July I: f-s-%-A...

→ #1 - 1 Peo (10mm), 1 Peo (9mm)

→ 2 - * 2 Peo (10,9 mm)

→ 3 -

→ 4 - 1 Peo (16mm), 1 Peo (7mm)

5 - 1 Peo (8mm)

→ 6 - 1 Peo (13mm), 1 Peo (8mm), 1 Peo (8mm)

→ 7 - * 2 Peo (17,14 mm)

→ 8 - 1 Peo (7mm), * 1 Peo (16mm)

II : Exact Duplicate of 3 July II : tr-s and pe-s ...

→ #9 - 1 Peo (15mm)

→ 10 - * 3 Peo (14, 10, 6mm)

→ 11 - 1 Peo (14mm), 2 Peo (13,10mm), 1 Peo (17mm)

→ 12 -

→ 13 - 1 Peo (22mm), 1 Prion (18mm), * 1 Peo (15mm)

→ 14 - 2 Peo (20,19mm)

15 -

→ 16 - 1 Prion (4mm)

(homo-sorting → Ø : 9,11,14,16

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1968

Special Berlese sample

1 August — Used 4 inch corer to take 8 cores from within Emergence trap II-2. Extracted in large funnels (60 watt bulb) in 2 groups of 4 cores.

#1: 4 Peo (19, 12, 12, 11 mm), 1 Peo (10 mm), 1 Peo (7 mm !!?)

#2: 2 Peo (22, 20 mm), 1 Peo (10 mm)

1 August — Same thing - emergence trap II-1.

#1: 1 Peo (18 mm), 2 tip (10 mm), 1 tip (6 mm !?)

#2: 2 tip (8, 7 mm), 1 Peo (9 mm)

3 August — Same thing - similar area outside of emergence trap II-2 -

#1: 1 Peo (19 mm)

#2: 3 Peo (22, 20, 14 mm)

Same thing - outside of trap II-1 -

#1: 1 Peo (14 mm), 3 tip (15, 12, 7 mm), 1 Peo (8 mm)

#2:

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Berlese results

Bank

2 August

I : Site ① - I - tr system under new cake cutter.

→ #1 - 1 Pep (8mm)

→ 2 - 2 Pep (7,7mm)

→ 3 -

→ 4 -

→ 5 - * 1 Pep (16mm)

→ 6 - * 2 Pep (18,9mm)

→ 7 -

→ 8 - 1 Pep (7mm), * 2 Pep (17,8mm)

II : Site ① - II - f-w near No. end of IIA-B.

#9 -

→ 10 - 4 Pep (17,10,9,9mm), * 1 Pep (9mm)

→ 11 - 2 Pep (13,10mm)

→ 12 - 2 Pep (10,8mm)

→ 13 - 2 Pep (16,8mm)

→ 14 -

→ 15 - 1 Pep (11mm)

16 -

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1968

Berlese Results

5 August

Bank
I : Site ②-I - f-w & f-s ; So. bank of Wohlsdag, East of crossing.

→ #1 - 1 Ped (7mm), 1 Ped (7mm), * 2 Ped (13, 12mm)

→ 2 - 1 Ped (15mm), * 7 Ped (18, 17, 17, 16, 14, 14, 13 mm!)

→ 3 - 1 Ped (5mm), * 7 Ped (16, 15, 13, 8, 7, 7, 7 mm!)

→ 4 - 1 Ped (14mm), * 3 Ped (15, 13, 11mm)

→ 5 - 1 Tip (11mm), * 8 Ped (15, 14, 13, 12, 8, 8, 8, 7 mm!)

→ 6 - 4 Ped (18, 17, 13, 11 mm), * 1 Ped (11 mm)

→ 7 - 1 Ped (16mm), * 9 Ped (19, 19, 16, 16, 15, 15, 14, 13, 8 see note 2)

→ 8 - 1 Ped (15mm), 1 Ped (8mm), * 7 Ped (15, 14, 14, 13, 12, 11, 9mm)

note: these were placed in funnels one day late due to weasel failure - not subjected to full 3-day extraction.

II : Site ②-II - tr system at Elean Bluffs.

→ #9 - { 1 Ped (8mm), * 4 Ped (19, 10, 8, 8mm)
{ 1 Ped (20mm), 1 Ped (19mm), 2 Ped (10, 9mm), 2 Ped (10, 8mm), 1 Ped (8mm)

→ 10 - 1 Ped (10mm), 1 Ped (8mm), 1 Ped (7mm), * 3 Ped (20, 15, 7mm)

→ 11 - 1 Ped (18mm), 1 Ped (8mm), * 1 Ped (8 mm)

→ 12 - 1 Ped (9mm), 1 Ped (17mm), 1 Ped (9mm), 1 Ped (10mm), * 1 Ped (7mm)

→ 13 - { * 1 Tip (28 mm), * 2 Ped (8, 7mm)
{ 2 Ped (15, 8mm), 1 Ped (8mm), 1 Ped (10mm), 2 Ped (9, 8mm)

→ 14 - 1 Ped (8mm), 1 Ped (9mm), 1 Ped (7mm), * 4 Ped (21, 19, 18, 8mm)

→ 15 - 1 Ped (8mm), 1 Ped (10mm), * 3 Ped (9, 9, 9mm)

→ 16 - 1 Ped (8mm)

note 2 - #7 - the 8 larger larvae were all found in one handful of soil - < 1/4 of total sample

Maclean
1968

Special Berlese sample

7 August

I. 8 cores w/ 4" corer from within Emergence I-3:

#1-4: 3 Ped (17, 16, 15 mm)

#5-8: 1 Ped (18 mm), 2 Ped (15, 14 mm)

II. 4 cores w/ 4" corer outside Emergence I-3:

(together): 1 Ped (17 mm), 1 Ped (5 mm)

III. 8 cores w/ 4" corer within Emergence I-4:

#1-4: 2 Ped (16, 12 mm)

#5-8: 3 Ped (19, 15, 10 mm), 1 Ped (15 mm)

IV. 4 cores w/ 4" corer outside Emergence I-4:

(together): 3 Ped (16, 15, 14 mm), 2 Ped (15, 6 mm)

8 August

I. 8 cores w/in Emergence II-5

#1-4: 3 Ped (18, 17, 16 mm)

#5-8: 3 Ped (20, 17, 17 mm)

II. 8 cores w/in Emergence II-6:

#1-4: 2 Ped (14, 14 mm)

#5-8: 3 Ped (14, 15, 16 mm)

Maclean
1968

Berlese results

8 August

Bank
I : Site ⑤ - I tanglefoot & Emergence II-5, 6.
#1-4 : II-6 ; #5-8 : II-5

→ #1 - * 4 Peo (15, 14, 9, 7 mm)
→ 2 - * 7 Peo (9, 9, 8, 8, 8, 7, 7 mm)
→ 3 - * 4 Peo (14, 9, 8, 7 mm)
→ 4 - * 1 Peo (11 mm)
→ 5 - 1 Peo (9 mm), * 1 Peo (15 mm)
→ 6 - 1 Peo (15 mm), * 1 Peo (9 mm)
→ 7 - * 2 Peo (17, 16 mm) + * 1 Peo (15 mm)
→ 8 - 1 Peo (16 mm)

II : Site ④ - II flat inland from Navy radio van.

→ #9 - 2 Peo (18, 13 mm), 1 Peo (8 mm), * 1 Peo (16 mm), * 1 Prion (10 mm)
→ 10 - 1 Prion (29 mm), 1 Prion (8 mm), 1 Peo (19 mm), * 1 Peo (9 mm)
→ 11 - 1 Peo (15 mm)
→ 12 - { 1 Peo (12 mm), 1 Peo (20 mm)
{ 2 Peo (19, 18 mm), 1 Peo (16 mm), 2 Peo (17, 15 mm), 1 Peo (18 mm)
→ 13 - 1 Peo (18 mm), * 2 Peo (19, 18 mm)
→ 14 - 2 Peo (17, 14 mm), 2 Peo (15, 13 mm), 1 Peo (19 mm), * 2 Peo (15, 13 mm)
→ 15 - 2 Peo (15, 8 mm), 1 Peo (18 mm)
→ 16 - 3 Peo (18, 17, 17 mm), 1 Peo (11 mm), 1 Peo (9 mm), * 1 Peo (16 mm)

Maclean
1968

Berlese results

11 August

Bank I : Site ⑤-II - tr So. end of Beach Ridge

→ II 1 - 1 Peo (7mm), * 1 Peo (5mm)

→ 2 - 1 Peo (5mm)

→ 3 - 2 Peo (20,20mm), 1 Peo (10mm), * 1 Peo (7mm)

→ 4 -

→ 5 -

→ 6 - 1 Peo (17mm), * 7 Peo (19,17,16,12,10,9,8mm)

→ 7 - 1 Peo (21mm), 1 Peo (9mm)

→ 8 - 1 Peo (7mm), * 1 Peo (11mm)

II : Site ⑥-II - f by Emergence I-9,10.
now wetter than 2ND sample here.

→ II 9 - 1 Peo (18mm)

→ 10 - 1 Peo (11mm), 1 Peo (13mm), 1 Peo (14mm), * 2 Peo (10,10mm)

→ 11 - 7 Peo (20,19,19,17,17,10,9mm), 2 Peo (11,10mm), 1 Peo (9mm), * 1 Peo (17mm)

→ 13 - 6 Peo (19,17,16,10,9,9mm), 2 Peo (18,9mm), * 7 Peo (15,10,9,8,8,8,8mm)

→ 12 - * 6 Peo (18,17,10,10,9,9mm)

→ 14 - 1 Peo (15mm), 1 Peo (9mm), * 1 Peo (10mm)

→ 15 - 2 Peo (16,14mm), * 1 Peo (10mm)

→ 16 - 4 Peo (19,18,17,10mm), 1 Peo (9mm), * 1 Peo (8mm)

Maclean
1968

Berlese returns

14 August

Bank
I : Site (7) - I : flat So. of F.a.a.

→ #1 - * 1 Peo (6 mm)

→ 2 - * 1 Peo (18mm)

→ 3 - * 2 Peo (17, 9 mm)

→ 4 - { * 2 Peo (8, 9 mm)
2 Peo (15, 9mm), 1 Peo (10 mm), 2 Peo (9, 9mm), 1 Peo (8mm)

→ 5 - * 3 Peo (17, 9, 8 mm)

→ 6 - 2 Peo (20, 18mm), 1 Peo (8mm), * 5 Peo (19, 17, 8, 8, 8mm)

→ 7 - ∅

→ 8 - 1 Peo (9mm), 1 Peo (10mm), * 2 Peo (8, 9mm)

II : Site (7) - II : tr. system So. of above.

→ #9 -

→ 10 - 1 Prion (30mm), 1 Peo (9 mm), 1 Peo (12 mm)

→ 11 - 1 Peo (15mm), * 1 Peo (8 mm)

→ 12 - 2 Prion (36, 30 mm), 1 Peo (10mm)

→ 13 - 1 Peo (9mm), 2 Peo (10, 8mm), * 4 Peo (10, 9, 8, 7 mm)

→ 14 - 2 Peo (21, 16mm), 1 Peo (9 mm), * 1 Peo (7 mm), * 1 Prion (36 mm)

→ 15 - 1 Peo (9mm), 2 Peo (9, 9mm), * 4 Peo (16, 8, 8, 8 mm)

→ 16 - 1 Peo (7 mm), * 3 Peo (9, 9, 9 mm)

Note: Placed hand-sorted litter of # 16, 5, 13 in large berlese to try to remove additional larvae. Removed none, indicating that hand-sorting is ± thorough.

Machean
1968

Berlese Results

7 August

Bank ~~Site~~ I : Site (9) - I f east of Gasline Road - f-s

→ #1 - * 4 Peo (10, 9, 8, 7 mm)

→ 2 - * 1 Peo (9 mm)

→ 3 - * 1 Peo (9 mm)

→ 4 - 1 Peo (20 mm), * 1 Peo (14 mm)

→ 5 - 1 Peo (18 mm), 1 Peo (8 mm)

→ 6 - 1 Peo (9 mm), * 2 Peo (10, 8 mm)

→ 7 - * 2 Peo (14, 10 mm)

→ 8 - 1 Peo (10 mm), 1 Peo (11 mm), * 2 Peo (9, 8 mm)

II : Site (9) - II tr system just West of Gasline Road

→ #9 -

→ * 10 - 1 Peo (9 mm), 1 Peo (9 mm), * 3 Peo (18, 9, 4 mm)

→ 11 - * 2 Peo (9, 7 mm)

→ 12 - 1 Peo (19 mm), 1 Peo (17 mm), * 3 Peo (13, 7, 7 mm)

→ 13 -

→ 14 - 1 Peo (17 mm), 1 Peo (9 mm), * 1 Peo (7 mm)

→ 15 - 1 Peo (8 mm)

→ 16 - 1 Peo (17 mm), * 1 Peo (10 mm)

Mackean
1968

Berlese results 4th series

20 August

Bank I : Site ② - I : f-w & f-s So bank of Wohlsley

→ # 1 - { * 1 Tip (6 mm)
1 Peo (13 mm), 2 Peo (14, 10 mm), 1 Peo (14 mm), * 2 Peo (13, 12 mm)

→ 2 - 1 Peo (9 mm), 3 Peo (15, 14, 7 mm)

→ 3 - 1 Peo (14 mm), 4 Peo (15, 14, 14, 13 mm), * 1 Peo (8 mm)

→ 4 - * 1 Peo (15 mm)

→ 5 - 1 Peo (16 mm), 1 Peo (15 mm), 1 Peo (15 mm), * 1 Peo (8 mm)

→ 6 - { * 1 Prion (18 mm)
1 Peo (15 mm), 1 Peo (9 mm), * 8 Peo (17, 16, 15, 11, 9, 8, 8, 8 mm)

→ 7 - 1 Peo (9 mm)

→ 8 - { * 1 Peo (10 mm)
3 Peo (18, 18, 16 mm), 2 Peo (17, 10 mm), 1 Peo (10 mm)

II . Site ② - II tr-w & tr-s - Elson bluffs.

→ # 9 - 2 Peo (10, 11 mm), 2 Peo (10, 10 mm), 1 Peo (11 mm), * 2 Peo (16, 10 mm)

→ 10 - 5 Peo (11, 10, 10, 10, 9 mm), 1 Peo (10 mm), * 1 Peo (9 mm)

→ 11 - * 1 Peo (9 mm)

→ 12 - 1 Peo (19 mm), * 2 Peo (20, 9 mm)

→ 13 - { * 1 Peo (9 mm)
1 Peo (14 mm), 1 Peo (8 mm), 1 Peo (16 mm) 3 Peo (10, 10, 10 mm)

→ 14 - 2 Peo (10, 9 mm)

→ 15 - 2 Peo (11, 11 mm), 2 Peo (11, 10 mm), 1 Peo (10 mm), * 3 Peo (17, 15, 9 mm)

→ 16 - { 7 Peo (21, 20, 20, 18, 17, 10, 8 mm), 1 Peo (10 mm)
* 6 Peo (20, 15, 9, 9, 8, 8 mm)

Maclean
1968

Berlese returns

24 August

Bank
I : Site ⑥ - II : by Emergence I - 9 & 10.

→ #1 - 1 P. ED (17mm), 1 P. ED (15mm), * 3 P. ED (16, 16, 14 mm)
→ 2 - 2 P. ED (20, 18mm), * 1 P. ED 16mm)
→ 3 - 1 P. ED (14mm), 1 P. ED (8mm), * 2 P. ED (11, 7mm)
→ 4 - 1 P. ED (15mm), 2 P. ED (14, 10mm), 1 P. ED (10mm)
→ 5 - 1 P. ED (10mm), * 3 P. ED (18, 13, 9 mm)
→ 6 - 1 P. ED (19mm), * 2 P. ED (15, 15mm)
→ 7 - 1 P. ED (16mm), 2 P. ED (10, 10mm)
→ 8 - 1 P. ED (14mm), 1 P. ED (16mm), * 2 P. ED (10, 16mm)

II : Site ④ - II - flat So. of Navy communications station.

→ #9 - 2 P. ED (12, 11mm), 2 P. ED (20, 9mm), 1 P. ED (16mm)
→ 10 - 2 P. ED (15, 13mm), 1 P. ED (15), 1 P. rion (8mm), * 2 P. ED (14, 13mm)
→ 11 - 2 P. ED (15, 14mm), 1 P. ED (14mm)
→ 12 - 4 P. ED (16, 17, 15, 14mm), 1 P. ED (12mm), 2 P. ED (15, 13mm)
→ 13 - 3 P. ED (17, 15, 14 mm), 1 P. ED (15mm), 1 P. ED (16mm), * 2 P. ED (15, 15 mm)
→ 14 - 1 P. rion (32 mm), 1 P. ED (9mm), * 1 P. ED (13 mm), * 2 P. rion (26, 26mm)
→ 15 - 2 P. ED (22, 20mm), 1 P. ED (14mm), 1 P. ED (12mm), * 2 P. rion (26, 10mm)
→ 16 - 1 P. ED (13mm), 1 P. ED (16mm), 1 P. ED (16mm), * 1 P. ED (13mm)

Macleod
1968

Cantraps – Drum Area

3 July	1100 : activated 23 cans.
4 July	1330 : 1 Carabid, 1 ♀ Tipula
5 July	1100 : No catch
6 July	1100 : 1 ♂ Pedicia
7 July	1200 : 1 Staphylinid
8 July	1200 : ~~1 ♂ Pedicia~~ no catch
9 July	1200 : No catch
10 July	1300 : No catch
11 July	1200 : No catch
12 July	1400 : No catch.
13 July	1330 : No catch
14 July	1300 : no catch

Machan
1968

Emergence traps - Site I

29 June 1600 : all 10 traps are now fully operative.
No tipulids have appeared on tanglefoots yet.

I-1:

2:

3:

4:

5:

6:

7:

8:

9: f -

10: f -

2 July 1700 : Nothing

3 July 1700 : Nothing. Nothing on tanglefoots.

5 July 1530 : Nothing

6 July 1600 : Nothing. 1 ♂ tipula on boards.

7 July 1600 : I-10 - 1 ♂ Pedicia

8 July 1600 : nothing. Picked up tanglefoots.

9 July 1730 : I-10 : 5 ♂ + 3 ♀ Pedicia

10 July 1700 : nothing

11 July 1700 : I-8 : 1 ♀ tipula
I-10 : 3 ♂ + 3 ♀ Pedicia

12 July 1700 : I-9 : 2 ♀ Pedicia
I-10 : 2 ♂ Pedicia

13 July 1715 : I-9 : 1 ♂ Pedicia
I-10 : 3 ♂ + 1 ♀ Pedicia

14 July 1700 : I-10 : 1 ♂ Pedicia

Maclean
1968

Emergence traps - Site I

15 July	1700 :	I-3:	1 ♀ Tipula
		I-8:	1 ♂ Tipula
		I-10:	1 ♂ Pedicia
16 July	1600 :	I-6:	1 ♀ Tipula, 1 ♀ Pedicia
		I-2:	1 ♂ Tipula
		I-9:	3 ♂ +2 ♀ Pedicia
		I-10:	1 ♂ +6 ♀ Pedicia
17 July	1630 :	I-2:	1 ♂ Tipula
		I-3:	5 ♂ + 2 ♀ Tipula
			2 ♂ + 2 ♀ Pedicia
		I-5:	1 ♀ Pedicia
		I-9:	6 ♂ +2 ♀ Pedicia
		I-10:	1 ♂ +5 ♀ Pedicia
18 July	1700	I-2:	1 ♀ Tipula
		I-5:	1 ♀ Tipula
		I-9:	5 ♂ +9 ♀ Pedicia
		I-10:	1 ♂ + 1 ♀ Pedicia
19 July	1700	I-1:	1 ♂ Tipula, 1 ♂ Pedicia
		I-3:	1 ♀ Tipula, 1 ♂ + 2 ♀ Pedicia
		I-9:	2 ♂ Pedicia
20 July	~~1520~~ 1740	I-7:	1 ♂ Pedicia
		I-8:	1 ♂ Prionocera
21 July	1700	I-4:	2 ♂ Pedicia
		I-7:	1 ♂ Pedicia
		I-9:	2 ♀ Pedicia
		I-10:	1 Trichoptera
22 July	1700	I-3:	1 ♂ Pedicia
23 July	1700	nothing	

Mooka
1968

Emergence traps – site I

24 July	1600	– zero
25 July	1740	– zero in # 3-10
26 July	1630	– I-2: 1 ♂ tipula. Probably yesterday
27 July	1630	– zero
29 July	1630	– zero
30 July	1630	– zero
31 July	1600	– zero
1 August	1630	– zero

$\Sigma = 106$ / 10 traps $= 10.6$ / trap

Mackean
1968

Beer - can traps - Site I

3 July	1700	Removed 6 ♂ tipula + 1 ♀ tipula from 9 cans; opened remaining. All 25 cans now operative.
5 July	1530 :	1 ♂ tipula, 1 ♀ tipula, 1 ♀ Pedicia
6 July	1600 :	4 ♂ tipula, 2 ♀ tipula
7 July	1600 :	3 ♂ tipula, 5 ♀ tipula 1 ♂ Pedicia, 1 ♀ Pedicia
8 July	1600 :	10 ♂ tipula, 4 ♀ tipula 3 ♂ Pedicia, 3 ♀ Pedicia
9 July	1700 :	15 ♂ tipula, 3 ♀ tipula 7 ♂ Pedicia, 11 ♀ Pedicia
10 July	1700 :	13 ♂ tipula, 2 ♀ tipula 9 ♂ Pedicia, 5 ♀ Pedicia
11 July	1700 :	18 ♂ tipula, 3 ♀ tipula 27 ♂ Pedicia, 20 ♀ Pedicia 2 ♀ Prionocera
12 July	1700 :	30 ♂ tipula, 12 ♀ tipula 41 ♂ Pedicia, 20 ♀ Pedicia
13 July	1700 :	26 ♂ tipula, 14 ♀ tipula 41 ♂ Pedicia, 15 ♀ Pedicia
14 July	1630 :	33 ♂ tipula, 14 ♀ tipula 53 ♂ Pedicia, 27 ♀ Pedicia 1 ♀ T. enigmaticus
15 July See note	1645 :	27 ♂ tipula, 11 ♀ tipula 20 ♂ Pedicia, 21 ♀ Pedicia
16 July See note	1600 :	42 ♂ tipula, 18 ♀ tipula 38 ♂ Pedicia, 12 ♀ Pedicia 1 ♀ Prionocera

Madison
1968

Beer can traps - Site I

17 July 1630 : 182 ♂ tipula, 63 ♀ tipula
339 ♂ Pedicia, 113 ♀ Pedicia
see note 1 ♂ Prionocera, 2 ♀ Prionocera

18 July 1630 : 39 ♂ tipula, 28 ♀ tipula
93 ♂ Pedicia, 17 ♀ Pedicia

note —— On 15, 16, and 17 July Pete checked site I and emptied only 3 of the 4 arms of the cross of can traps. the following, removed from the 4th arm on 18 July, should be divided proportionally and assigned to 15, 16, 17, and 18 July:

52 ♂ tipula, 26 ♀ tipula
52 ♂ Pedicia, 15 ♀ Pedicia

19 July 1700 : 35 ♂ tipula, 30 ♀ tipula, 1 tip. lar. (13mm)
80 ♂ Pedicia, 0 ♀ Pedicia!
(see site II : also 0 ♀ Pedicia there!!)

20 July 1740 : 12 ♂ tipula, 22 ♀ tipula
34 ♂ Pedicia, 2 ♀ Pedicia

21 July 1700 : 2 ♂ tipula, 5 ♀ tipula
6 ♂ Pedicia

22 July 1700 : 4 ♂ tipula, 5 ♀ tipula
1 ♀ Pedicia

23 July 1700 : 2 ♂ + 2 ♀ tipula ; 1 ♂ Pedicia
24 July 1615 : 1 ♂ + 1 ♀ tipula ; 1 ♂ Pedicia
25 July 1730 : 3 ♂ + 6 ♀ tipula.
26 July 1630 : nothing

MacLean
1968

Beer-can traps - Site I

27 July	1630 :	2 ♀ *tipula*
29 July	1630 :	3 ♀ *tipula*
30 July	1630 :	1 ♂ *tipula*
31 July	1600 :	zero
1 August	1600 :	zero

Machean
1968

Emergence traps - site II

21 June	1630 :	6 traps set at site II.	
	II-1:	tr-w-3/1-A-3/2-Co	(tanglefoot II 3,4.)
	2:	tr-sw-3/0-A-4/4-Co	
	3:	m-w-2/2-A-3/2-Co	(tanglefoot II-1,2.)
	4:	f-w-3/1-A-3/3-Co	
	5:	f-sw-	(tanglefoot II-5)
	6:	f-s-4/0-A-	(tanglefoot II-6)
24 June	1600 :	nothing	
26 June	1730 :	nothing	
29 June	1615 :	II-1 :	♂ Pedicia
		II-2 :	♂ Pedicia
2 July	2200 :	nothing	
3 July	2200 :	II-4 :	1 ♀ tipula
5 July	1630 :	nothing	
6 July	1630 :	nothing	
7 July	1530 :	II-1 -	1 ♂ tipula
8 July	1530 :	nothing	
9 July	1630 :	II-5 -	1 ♂ Pedicia
10 July	1600 :	II-2 -	1 ♀ tipula
11 July	1530 :	II-3 :	1 ♂ Pedicia
12 July	1600 :	II-6 :	1 ♀ Prionocera
13 July	1530 :	II-1 :	1 ♀ tipula
		II-5 :	1 ♂ Pedicia
		II-6 :	1 ♂ Pedicia
14 July	1530 :	II-6 :	1 ♀ Prionocera
15 July	1700 :	II-4 :	1 ♀ tipula
		II-5 :	1 ♂ Pedicia

Machen
1968

Emergence traps - Site II

16 July	not run		
17 July	1700 :	II-6 -	2♀ Prionocera
			2♀ + 1♂ Pedicia
18 July	1600 :	II-5 :	3♂ + 2♀ Pedicia
19 July	1600 :	II-5 :	1♂ Pedicia
		II-6 :	1♂ + 1♀ Prionocera
20 July	1620 :	II-6 :	1♂ Pedicia + 1♀ Prionocera
21 July	1530 :	II-5 :	1♂ Pedicia, 1 trichoptera
22 July	1545 :	zero	
23 July	1545 :	Nil	
24 July	2000 :	zero	
25 July	2200 :	zero	
26 July	1600 :	zero	
27 July	1530 :	zero	
29 July	1600 :	zero. II-3 was moved. We replaced it.	
30 July	no check		
31 July	1545 :	zero	
1 August	1530 :	zero. took 8 4-inch sod cores from II-1 & II-2.	

$\Sigma = 30/6$ traps $= 5.0$/trap

Macleson
1968

Beer cantraps - site II

3 July	25 cans activated - 2200		
5 July	1630:	19 ♂ Pedicia,	15 ♀ Pedicia
		25 ♂ tipula,	7 ♀ Tipula
		1 ♂ Prionocera	
6 July	1630:	1 ♂ tipula,	3 ♀ Tipula
		6 ♂ Pedicia,	10 ♀ Pedicia
7 July	1530:	8 ♂ tipula,	7 ♀ tipula
		6 ♂ Pedicia,	10 ♀ Pedicia
8 July	1530:	16 ♂ Tipula	16 ♀ Tipula
		24 ♂ Pedicia	11 ♀ Pedicia
9 July	1630:	13 ♂ tipula,	13 ♀ tipula
		59 ♂ Pedicia	15 ♀ Pedicia
			1 ♀ Prionocera
10 July	1600:	8 ♂ tipula,	5 ♀ tipula
		17 ♂ Pedicia,	3 ♀ Pedicia
11 July	1530:	31 ♂ tipula,	16 ♀ tipula
		73 ♂ Pedicia,	12 ♀ Pedicia
			1 ♀ Prionocera
12 July	1545:	15 ♂ tipula,	10 ♀ tipula
		27 ♂ Pedicia,	6 ♀ Pedicia
			1 ♀ Prionocera
			1 ♀ T. enigmaticus
13 July	1545:	25 ♂ tipula,	4 ♀ tipula
		23 ♂ Pedicia	3 ♀ Pedicia
14 July	1530:	24 ♂ tipula,	10 ♀ tipula
		34 ♂ Pedicia,	7 ♀ Pedicia
			1 ♀ Prionocera

Maclean
1968

Beer-can traps - Site II

15 July	1700:	57 ♂ *tipula*,	26 ♀ *tipula*
		33 ♂ *Pedicia*,	7 ♀ *Pedicia*
		1 ♂ *Prionocera*	
16 July	not run	} ↓ × 1/2 = 2 day mean	
17 July	1700:		
		121 ♂ *tipula*,	52 ♀ *tipula*
		182 ♂ *Pedicia*,	11 ♀ *Pedicia*
			1 ♀ *Prionocera*
			2 ♀ *t. enigmaticus*
18 July	1600:	37 ♂ *tipula*,	24 ♀ *tipula*
		97 ♂ *Pedicia*,	3 ♀ *Pedicia*
19 July	1530:	11 ♂ *tipula*,	16 ♀ *tipula*
		37 ♂ *Pedicia*,	∅ ♀ *Pedicia*!
	(see site I - also 0 ♀ *Pedicia* there!!)		
20 July	1620:	3 ♂ *tipula*,	4 ♀ *tipula*
		6 ♂ *Pedicia*,	∅ ♀ *Pedicia*
	Counts by E.A. Maclean		
21 July	1530:	2 ♂ *tipula*,	2 ♀ *tipula*
		2 ♂ *Pedicia*,	∅ ♀ *Pedicia*
22 July	1545:	zero!	
23 July	1545:	nothing	
24 July	2000:	zero	
25 July	2200:	zero	
26 July	1600:	1 ♂ + 1 ♀ *Tipula*	
27 July	1530:	1 ♂ *Pedicia*	
29 July	1600:	zero	
30 July	not run		
31 July	1545:	zero	

Maclean
1968

Beer-can traps - site II

1 August 1600 : 1 ♀ *Tipula*

Macleod 1968

Collection Date ↓

Tanglefoots

Date			
23 June	I-4:	5	sm. Nematocera
	I-5:	no	adult insects
	I-6:	2	small spiders
24 June	II-1:	4	sm. nematocera
		4	brachycera
		3	ad. tenthredinids
		1	unident. Hemipteran
	II-2:	9	sm. nematocera
		4	brachycera
		5	ad. tenthredinids
	II-3:	13	sm. nematocera
		5	brachycera
		11	ad. tenthredinids.
	II-4:	70	sm. nematocera
		8	brachycera
		17	ad. tenthredinids

Machan
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Tanglefoots

26 June

I-1:	2	small spiders
I-2:	1	small spider
I-3:	1	Brachyceran
I-4:	1	sm. Nematoceran
I-5:	1	Tipulid enigmaticus
	1	sm. Nematoceran
I-6:	1	sm. Nematoceran
II-1:	18	sm. Nematocera
	5	Brachycera
	1	ad. tenthredinid
II-2:	12	sm. Nematocera
	1	tipulid enigmaticus (part saved)
	3	Brachycera
	1	ad. Tenthredinid
II-3:	96	sm. Nematocera
	1	Brachycera
II-4:	48	sm. Nematocera
	3	Brachycera
	2	ad. Tenthredinids

Maclean
1968

tanglefoots

(26 June) II-5: not run - site too wet

II-6: 33 v.small Nematocera
1 Brachycera

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29 June I-1: 1 micro-nematoceran
1 sm. nematoceran
2 Brachycera
1 sm. spider

I-2: 2 micro-nematocera
1 ao. tenthredinid

I-3: 2 sm. nematocera

I-4: 2 micro-nematocera
1 sm. nematocera

I-5: 4 sm. nematocera
1 brachycera

I-6: 8 sm. nematocera
2 brachycera

II-2: 24 sm. nematocera
NOTE 11 brachycera
6 ao. tenthredinids
3 Ichneumonids
2 ♂ Tipula ; 1 ♀ Tipula

Maclean
1968

Tanglefoots

(29 June) II-1: 17 Sm. nematocera
note 10 micro-nematocera
9 brachycera
2 tenthredinidae
1 Schnemonidae

II-3: 149 Sm. nematocera
9 brachycera
3 tenthredinidae
1 ♀ Tipula

II-4: 1 Phyloscopus borealis sn 932
2 ♂ tipula
173 Sm. nematocera
12 micro nematocera
13 brachycera
2 tenthredinids
1 Spider

II-5: 400+ micro-nematocera
1 brachycera

II-6: 387 micro nematocera
10 brachycera
1 Sm. nematocera
~~2~~4 spiders

Maehen
1968

Tanglefoots

2 July I-1: 1 Sm. nematoceran

I-2: 6 Sm nematocera
6 micro-nematocera

I-3: 1 Sm. nematoceran
5 micro. nematocera
2 brachycera

I-4: 9 Sm. nematocera
1 brachycera

I-5: 13 Sm. nematocera
1 micro-nematocera

I-6: 5 sm. nematocera
2 micro-nematocera
1 brachycera
1 spider

II-1: 21 sm. nematocera
3 brachycera
1 tenthredinid
20 micro-nematocera

Maclean
1968

Tanglefoot

2 July II-2:

2 ♂ tipula
2 ♂ Pedicia
15 sm. nematocera
1 brachycera
3 tenthredinidae
1 sm. spider

II-3:

1 ♂ tipula
2 ♂ Pedicia
99 sm. nematocera
14 micro-nematocera
1 brachycera
1 Ichneumonidae

II-4:

3 ♂ Pedicia
84 sm. nematocera
5 brachycera
14 micro-nematocera

NOTE → II-6:

3 sm. nematocera
1,028 micro-nematocera
3 brachycera
2 spiders

NOTE → II-5:

28 sm. nematocera
1 brachycera
ca. 400 micro-nematocera

Maclean
1968

Tanglefoots

5 July I-1:

22 Sm. nematocera
1 brachycera
4 tenthredinidae
1 spider

I-2:

43 Sm. nematocera
5 (sm) brachycera
3 (sm) spiders
4 micro-nematocera

I-3:

67 Sm. nematocera (inc. 1 chironomidae)
5 micro-nematocera
3 brachycera

I-4:

87 Sm. nematocera
2 brachycera

I-5:

79 Sm. nematocera
1 brachycera
5 micro-nematocera

I-6:

101 Sm. nematocera
2 brachycera
1 tenthredinidae
4 micro-nematocera

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1968

tanglefoots

5 July II-1: 1 ♀ *Tipula*
16 Sm. nematocera
79 micro-nematocera
5 brachycera
2 tenthredinidae

II-2: 1 ♂ *Pedicia*
32 Sm. nematocera
19 micro-nematocera
9 brachycera
2 tenthredinidae

II-3: 4 ♂ *Pedicia*
3 ♂ *tipula*
261 sm. nematocera
77 micro-nematocera
12 brachycera
3 tenthredinidae

II-4: 4 ♂ *Pedicia* ; 4 ♀ *tipula*
168 Sm. nematocera
11 micro-nematocera
10 brachycera
8 tenthredinidae
1 sm. spider

Maclean
1968

Tanglefeet

5 July II-5:

284	Sm. nematocera
401	micro-nematocera
4	brachycera

II-6: accidentally cleared before counting.
no tipulids.

8 July I-1:

189	Sm. nematocera
15	micro-nematocera
13	brachycera
9	tenthredinidae
2	spiders

I-2:

482	Sm. nematocera
5	micro-nematocera
20	brachycera
5	tenthredinidae
3	spiders
1	tipulid enigmaticus

I-3:

418	Sm. nematocera
15	micronematocera
24	brachycera
3	tenthredinidae
1	spider

Maclean
1968

Tanglefeet

8 July I-4:

1 ♂ tipula
500 sm. nematocera (by count)
21 micro-nematocera
7 brachycera
3 tenthredinidae
1 spider

I-5:

3 ♂ tipula
503 sm. nematocera
17 micro-nematocera
24 brachycera
2 tenthredinidae
4 spiders

I-6:

no tipulidae
493 sm. nematocera
26 micro-nematocera
8 brachycera
2 tenthredinidae
2 sm. spiders

II-1:

no tipulidae
356 sm. nematocera
116 micro-nematocera
32 brachycera
6 Ichneumonidae
3 tenthredinidae

Machan
1968

Tanglefeet

8 July II-2: 5 ♂ tipula, 1 ♀ tipula
303 Sm. nematocera
32 micro-nematocera
46 brachycera
7 tenthredinidae
1 Ichneumonidae
2 Spiders

II-3: 7 ♂ tipula, 2 ♀ tipula, 3 ♂ Pedicia
803 Sm. nematocera
56 micro-nematocera
15 brachycera
4 tenthredinidae

II-4: 8 ♂ tipula, 9 ♂ Pedicia
795 Sm. nematocera
60 ~~brachycera~~ micro-nematocera
26 brachycera
4 tenthredinidae
6 Ichneumonidae

II-5: 1 ♂ Pedicia, 1 ♀ Pedicia
1,142 Sm. nematocera
1,020 micro-nematocera
14 brachycera
1 sm. spider

Macleod
1968

Tanglefoots

8 July II-6:

4 ♂ Pedicia
271 Sm. nematocera
320 micro-nematocera
17 brachycera
4 spiders (3 of these micro-spiders)

11 July I-1:

33 sm. nematocera
3 micro-nematocera
10 brachycera
1 tenthredinidae

I-2:

3 ♂ Pedicia, 1 ♂ Prionocera
269 sm. nematoceranes
2 micro-nematocera
71 brachycera
1 tenthredinid
6 spiders (5 of these micro-spiders.)

I-3:

146 sm. nematocera
11 micro-nematocera
42 brachycera

I-4:

4 ♂ Tipula
243 sm. nematocera
19 micro-nematocera
23 brachycera
1 tenthredinid
1 spider

Machan
1968

Tanglefoots

18 July I-5:

2 ♂ *tipula*, 1 ♂ *Pedicia*
150 Sm. nematocera
14 micro-nematocera
22 brachycera

I-6:

16 ♂ *tipula*, 1 ♀ *Tipula*, 1 ♂ *Pedicia*
289 Sm. nematocera
33 micro-nematocera
9 brachycera
1 micro-spider

II-1:

3 ♂ *tipula*, 1 ♂ *Pedicia*
121 Sm. nematocera
14 micro-nematocera
10 brachycera
2 tenthredinidae
1 Ichneumonidae
1 micro-spider

II-2:

8 ♂ *Tipula*, 2 ♀ *Tipula*, 5 ♂ *Pedicia*, 1 ♀ *Prionocera*
281 Sm. nematocera
23 micro-nematocera
22 brachycera
3 tenthredinidae
1 Braconidae

Machen
1968

Tanglefoots

11 July II-3: 8 ♂ *Tipula*, 1 ♀ *Tipula*, 3 ♂ *Pedicia*
279 sm. nematocera
29 micro-nematocera
12 brachycera
1 Tenthredinidae
1 braconidae

II-4: 9 ♂ *Tipula*, 4 ♀ *Tipula*, 8 ♂ *Pedicia*
371 sm. nematocera
23 micro-nematocera
11 brachycera
5 Ichneumonidae
2 Tenthredinidae
1 micro-spider

II-5: 5 ♂ *Pedicia*, 1 ♀ *Pedicia*
820 sm. nematocera
2700 micro-nematocera
30 brachycera
6 Spiders

II-6: 47 ♂ *Pedicia*, 2 ♀ *Pedicia*, 4 ♂ *Prionocera*
84 Sm. nematocera
495 micro-nematocera
27 brachycera
4 spiders

Maclean
1968

tanglefoots

14 July I-1:

8 ♂ Pedicia
150 sm. nematocera
12 micro-nematocera
31 brachycera
3 tenthredinidae
2 Spiders

I-2:

7 ♂ Pedicia, 2 ♂ tipula, 3 ♂ Prionocera
469 Sm. nematocera
8 micro-nematocera
48 brachycera
2 tenthredinidae
1 Spider

I-3:

15 ♂ Pedicia, 8 ♂ Prionocera
285 sm. nematocera
6 micro-nematocera
36 brachycera
1 tenthredinidae

I-4:

8 ♂ tipula, 1 ♀ tipula, 1 ♂ Pedicia, 1 ♀ Pedicia
350 Sm. nematocera
9 micro-nematocera
37 brachycera
1 tenthredinidae
3 T. enigmaticus

Machera
1968

Tanglefoots

14 July I-5:

17 ♂ tipula, 1 ♀ tipula, 7 ♂ Pedicia
253 Sm. nematocera
8 micro-nematocera
42 brachycera
1 tenthredinid
4 spiders

I-6:

24 ♂ tipula, 2 ♀ tipula, 4 ♂ Pedicia
326 sm. nematocera
34 micro-nematocera
37 brachycera
4 tenthredinidae
1 t. enigmaticus

14 July II-1:

↳ 4 ♂ tipula, 2 ♂ Pedicia
133 Sm. nematocera
27 micro-nematocera
23 brachycera
4 tenthredinidae
3 braconidae

II-2:

10 ♂ tipula, 2 ♀ tipula, 1 ♀ Pedicia
248 Sm. nematocera
20 micro-nematocera
33 brachycera
4 tenthredinidae
6 Ichneumonidae

Maclean
1968

Tanglefoots

14 July II-3: 8 ♂ *Tipula*, 1 ♂ *Pedicia*
1 ad. moth
182 sm. nematocera
17 micro-nematocera
10 brachycera
2 tenthredinidae
8 braconidae

II-4: 10 ♂ *tipula*, 1 ♀ *tipula*, 5 ♂ *Pedicia*
272 sm. nematocera
20 micro-nematocera
14 brachycera
6 braconidae
4 Ichneumonidae
2 Tenthredinidae

II-5: 83 ♂ *Pedicia*, 7 ♀ *Pedicia*, 5 ♂ *Prionocera*
150 sm. nematocera
ca. 1000 micro-nematocera
23 brachycera
1 braconidae
3 spiders

II-6: 104 ♂ *Pedicia*, 5 ♀ *Pedicia*, 4 ♂ *Prionocera*, 2 ♀ *Prion.*
1 ♀ *tipula*, 1 ♂ of new sp. of 15 July-sweep
96 + Sm. nematocera
21 brachycera
ca. 500 micro-nematocera 1 moth

Maclean
1968

Tanglefoots

17 July I-1: 11 ♂ *tipula*, 3 ♀ *tipula*, 14 ♂ *Pedicia*, 3 ♀ *Pedicia*,
1 ♂ *Prionocera*
877 Sm. nematocera
1,305 micro-nematocera
46 brachycera
20 tenthredinidae
1 micro-spider

I-2: 2 ♂ *tipula*, 17 ♂ *Pedicia*, 4 ♀ *Pedicia*, 1 ♂ *Prionocera*
70 very large chironomidae
1,263 Sm. nematocera
1,859 micro-nematocera
72 brachycera
4 tenthredinidae
1 micro-spider

I-3: 7 ♂ *tipula*, 3 ♀ *tipula*, 19 ♂ *Pedicia*, 5 ♀ *Pedicia*
10 ♂ *Prionocera*, 1 ♀ *Prionocera*
1,040 Sm. nematocera
1,006 micro-nematocera
78 brachycera
8 tenthredinidae
2 spiders
1 Ichneumonidae

Maclean
1968

Tanglefoots

17 July I-4: 20 ♂ *tipula*, 3 ♀ *tipula*, 6 ♂ *Pedicia*,
3 ♀ *Pedicia*, 3 *Prionocera*, 1 *T. enigmaticus*
1,406 Sm. nematocera
315 micro-nematocera
136 brachycera
7 tenthredinidae
1 Ichneumonidae
1 micro-spider
~~1 [illegible]~~

I-5: 7 ♂ *tipula*, 2 ♀ *tipula*, 4 ♂ *Pedicia*,
1 ♀ *Pedicia*, 3 ♂ *Prionocera*, 2 *T. enigmaticus*
1,199 Sm. nematocera
338 micro-nematocera
61 Brachycera
3 Ichneumonidae
2 Spiders

I-6: 13 ♂ *tipula*, 3 ♀ *tipula*, 5 ♂ *Pedicia*, 2 ♀ *Pedicia*
2 ♂ *Prionocera*
1,443 Sm. nematocera
198 micro-nematocera
139 brachycera
3 Ichneumonidae
3 tenthredinidae

Macken
1968

tanglefoots

17 July II-1: 8 ♂ tipula, 0 ♀ tipula, 6 ♂ Pedicia, 1 ♀ Pedicia
485 Sm. nematocera
108 micro-nematocera
90 brachycera
7 braconidae
9 Ichneumonidae
7 Tenthredinidae
2 T. enigmaticus
1 Trichopteran

II-2: 13 ♂ tipula, 3 ♀ tipula, 2 ♂ Pedicia, 2 ♂ Prionocera
692 Sm. nematocera
114 micro-nematocera
99 brachycera
9 Ichneumonidae
9 Braconidae
6 tenthredinidae

II-3: 9 ♂ tipula, 3 ♀ tipula, 2 ♂ Pedicia
623 Sm. nematocera
101 micro-nematocera
45 brachycera
18 braconidae
4 Ichneumonidae
2 Tenthredinidae
2 T. enigmaticus

Maehan
1968

Tanglefoots

17 July II-4: 11 ♂ *tipula*, 6 ♀ *tipula*, 1 ♂ *Pedicia*
668 Sm. nematocera
100 micro-nematocera
100 brachycera
8 Ichneumonidae
8 Braconidae
5 Tenthredinidae
2 T. enigmaticus

II-5: 33 ♂ *Pedicia*, 7 ♀ *Pedicia*, 3 ♂ + 2 ♀ *Prionocera*
66 brachycera
ca 2,000 Sm. + micronematocera (categories merge)

II-6: 32 ♂ + 4 ♀ *Pedicia*; 7 ♂ + 1 ♀ *Prionocera*
52 brachycera
ca. 1500 micro-nematocera
ca. 250 sm. nematocera

20 July I-1: 55 ♂ *Pedicia*, 1 ♂ *tipula*, 1 ♂ *Prionocera*,
1 ♂ - new sp. 6/15 July, 1 ♀ T. enigmaticus
2,146 Sm. nematocera
754 micro-nematocera
83 brachycera
11 Tenthredinidae
5 Ichneumonidae
2 Braconidae
2 micro-spiders
1 Trichoptera

Maclean
1968

Tanglefoots

20 July I-2: 1 ♀ *tipula*, 117 ♂ *Pedicia*, 2 ♀ *Pedicia*,
1 ♂ *Prionocera*
2,560 Sm. nematocera
824 micro-nematocera
145 brachycera
1 tenthredinid
1 micro-spider
1 trichoptera

I-3: 66 ♂ *Pedicia*, 4 ♂ *Prionocera*
1 trichoptera
2,768 Sm. nematocera
782 micro-nematocera
176 brachycera
2 tenthredinidae
1 Ichneumonidae

I-4: 1 ♂ *tipula*, 1 ♀ *Tipula*, 12 ♂ *Pedicia*
2,226 Sm. nematocera
230 micro-nematocera
180 brachycera
3 tenthredinidae
2 Ichneumonidae
2 T. enigmaticus

Maclea
1968

- Tanglefoots

20 July I-5: 5 ♂ *tipula*, 1 ♀ *tipula*, 17 ♂ *Pedicia*, 1 ♂ *Prionocera*
2,122 Sm. nematocera
190 micro-nematocera
125 brachycera
2 Braconidae

I-6: 1 ♂ *tipula*, 10 ♂ *Pedicia*
1,824 Sm. nematocera
130 micro-nematocera
129 brachycera
2 Braconidae
1 Ichneumonidae

0 July II-1: 1 ♂ *tipula*, 3 ♂ *Pedicia*, 4 *t. enigmaticus*
916 sm. nematocera
164 micro-nematocera
439 brachycera
3 Ichneumonidae
5 Braconidae
2 Tenthredinidae
1 Trichoptera

II-2: 2 ♂ *Pedicia*
933 Sm. nematocera,
132 micro-nematocera
19 Braconidae
4 Ichneumonidae, 1 Tenthredinidae
52 Brachycera

Machea
1968

Tanglefeet

20 July II-3: 3♂ + 1♀ Tipula, 9♂ Pedicia, 1♀ Prionocera
3 trichoptera, 4 T. enigmaticus
787 Sm. nematocera
167 micro-nematocera
43 brachycera
22 braconidae
11 ~~tenthredinidae~~ Ichneumonidae
3 Tenthredinidae
1 Sm. spider

II-4: 6♂ Pedicia, 1♀ Prionocera, 5 T. enigmaticus
1 Saturnid moth
934 Sm. nematocera
176 micro-nematocera
6 Ichneumonidae
4 braconidae
2 tenthredinidae
41 brachycera

II-5: 38♂ Pedicia, 2♂ Prionocera
6 trichoptera of at least 2 spp.
755 Sm. nematocera
234 micro-nematocera
109 brachycera
2 Ichneumonidae
1 tenthredinidae

Machen
1968

tanglefoots

20 July II-6: 38 ♂ Pedicia, 1 ♀ Pedicia, 1 ♂ Prionocera
2 Trichoptera
545 Sm. nematocera
226 micro-nematocera
122 brachycera
4 Ichneumonidae
15 Braconidae
1 Spider

23 July I-1: 1 ♂ Tipula, 2 T. enigmaticus
633 Sm. nematocera (mostly v. small)
60 micro-nematocera
71 brachycera
3 Ichneumonidae
2 Braconidae
1 trichoptera
3 Spiders

I-2: 3 ♂ + 1 ♀ Tipula, 1 ♂ Pedicia, 2 T. enigmaticus
575 Sm. nematocera (mostly v. small)
47 micro-nematocera
51 Brachycera
6 Ichneumonidae
2 Braconidae
10 sm. spiders

Macken
1968

Tanglefoots

(23 July) I-3: 2 ♂ Peoicia, 2 t. enigmaticus, 1 ♀ Peoicia
677 Sm. nematocera
67 micro-nematocera
87 Brachycera
9 Ichneumonidae
2 Sm. spiders
1 Trichoptera

I-4:
4 ♂ Tipula
682 Sm. nematocera
66 micro-nematocera
143 Brachycera
6 Ichneumonidae
4 Braconidae

I-5: 571 Sm. nematocera
77 micro-nematocera
84 brachycera
2 Ichneumonidae

I-6: 3 ♂ tipula, 1 t. enigmaticus
1 Saturnio moth
579 Sm. nematocera
24 micro-nematocera
273 Brachycera
11 Ichneumonidae
1 Braconidae

Maehean
1968

tanglefoots

23 July II-1: 191 Sm. nematocera
21 micro-nematocera
20 brachycera
8 Braconidae
1 tenthredinidae
1 Schneumonidae
1 Cicadellidae
1 micro-spider

II-2: 218 Sm. nematocera
19 micro-nematocera
4 brachycera
5 braconidae

II-3: 2 T. enigmaticus
197 Sm. nematocera
20 micro-nematocera
17 braconidae
2 Schneumonidae
16 brachycera

II-4: 1 T. enigmaticus
276 Sm. nematocera
9 micro-nematocera
8 brachycera
8 braconidae

Machen
1968

Tanglefoots

23 July II-5:

112 Sm. nematocera
56 micro-nematocera
26 brachycera
4 braconidae
3 Ichneumonidae

II-6:

86 Sm. nematocera
32 micro-nematocera
23 brachycera
14 Ichneumonidae
5 Braconidae

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26 July I-1:

19 Sm. nematocera
3 micro-nematocera
3 brachycera
1 braconidae

I-2:

35 Sm. nematocera
5 micro-nematocera
2 brachycera
4 Ichneumonidae
1 spider

I-3

37 Sm. nematocera
5 micro-nematocera
7 brachycera
1 braconidae
1 Ichneumonidae

Macken
1968

Tanglefoots

26 July I-4:
- 14 Sm. nematocera
- 1 brachycera
- 1 T. enigmaticus

I-5:
- 15 Sm. nematocera
- 4 micro-nematocera
- 4 brachycera
- 1 Ichneumonidae

I-6:
- 27 Sm. nematocera
- 6 micro-nematocera
- 9 brachycera
- 1 Ichneumonidae

II-1:
- 7 Sm. nematocera
- 1 micro-nematocera
- 2 brachycera
- 5 } ? Ichneumonidae
- 2 } ? braconidae

II-2:
- 14 ~~14~~ Sm. nematocera
- 4 brachycera
- 7 braconidae

II-3
- 1 T. enigmaticus
- 7 Sm. nematocera
- 3 Ichneumonidae
- 2 braconidae

Maclean
1968

tanglefoots

26 July II-4: 21 Sm. nematocera
1 braconidae

II-5: 6 Sm. nematocera
5 micro-nematocera
4 brachycera

II-6: 1 Trichoptera
1 Sm. nematocera
6 brachycera
4 Ichneumonidae
2 braconidae
2 Sm. spiders.

29 July I-1: 56 Sm. nematocera
11 micro-nematocera
18 brachycera
1 T. enigmaticus
10 Ichneumonidae
1 sm. spider

I-2: 1 T. enigmaticus, 1 Saturniid moth
74 Sm. nematocera
11 micro-nematocera
29 brachycera
50 Ichneumonidae
3 Braconidae
3 sm. spiders

Moclea
1768

Tanglefoots

29 July I-3: 1 ♂ + 1 ♀ Tipula
65 Sm. nematocera
17 micro-nematocera
25 brachycera
19 Ichneumonidae
1 Sm. spider

I-4: 40 Sm. nematocera
9 micro-nematocera
37 brachycera
6 Ichneumonidae
1 braconidae

I 6: 40 Sm. nematocera
note 5 micro-nematocera
83 brachycera
5 Ichneumonidae
4 braconidae

5
I-5: 1 T. enigmaticus
note 61 Sm. nematocera
7 micro. nematocera
30 brachycera
9 braconidae
1 Ichneumonidae
1 tenthredinidae

Maclea
1968

Tanglefoots

29 July II-1:

31 Sm. nematocera
4 micro-nematocera
26 brachycera
10 braconidae
4 Ichneumonidae

II-2:

1 T. enigmaticus
37 Sm. nematocera
1 micro-nematocera
23 brachycera
24 braconidae
4 Ichneumonidae

II-3:

45 Sm. nematocera
3 micro-nematocera
15 brachycera
6 braconidae
1 Ichneumonidae
1 Sm. spider

II-4:

24 Sm. nematocera
14 brachycera
10 braconidae
3 Ichneumonidae

Macleod
1968

Tanglefoots

1 August I-3

2 T. enigmaticus
42 Sm. nematocera
9 micro-nematocera
9 brachycera
6 Ichneumonidae
3 braconidae

I-4:

42 Sm. nematocera
8 micro-nematocera
10 brachycera
1 braconidae

I-5:

18 Sm. nematocera
20 micro-nematocera
6 Brachycera
3 Braconidae

I-6:

4 T. enigmaticus
36 Sm. nematocera
25 micro-nematocera
13 brachycera
7 Braconidae

7 August II-1

1 T. enigmaticus
19 Sm. nematocera
2 Brachycera
1 Ichneumonidae
8 Braconidae

Machra
1968

Tanglefoots

1 August II-2:

14 Sm. nematocera
1 micro-nematocera
3 brachycera
4 Ichneumonidae
22 Braconidae

II-3:

17 Sm. nematocera, 1 T. enigmaticus
1 micro-nematocera
2 Brachycera
6 Braconidae
1 sm. spider

II-4:

15 sm. nematocera
2 micro-nematocera
4 Brachycera
1 Ichneumonidae
2 Braconidae

II-5:

2 T. enigmaticus
14 Sm. nematocera
8 micro-nematocera
5 brachycera
7 Ichneumonidae
2 Braconidae
1 sm. spider

Macleod
1968

Tanglefoots

1 August II-6:

12 Sm. nematocera
4 micro-nematocera
1 Brachycera
7 Ichneumonidae
6 Braconidae
1 sm. spider

7 August I-1:

48 Sm. nematocera
9 micro-nematocera
14 brachycera
12 Braconidae
5 Ichneumonidae
2 Sm. spiders

I-2:

42 Sm. nematocera
16 micro-nematocera
22 Brachycera
25 Ichneumonidae
6 Braconidae
1 sm. spider

I-3:

34 Sm. nematocera
7 micro-nematocera
12 Brachycera
6 Braconidae
23 Ichneumonidae
4 Sm. spiders

Macka
1968

tanglefeets

7 August I-4:

1 ♂ ar. tipula
19 sm. nematocera
18 micro-nematocera
21 Brachycera
2 Ichneumonidae
8 Braconidae

I-5:

1 T. Enigmaticus
20 sm. nematocera
13 micro-nematocera
2 Ichneumonidae
7 Braconidae
2 sm. spiders

I-6:

13 sm. nematocera
13 micro-nematocera
44 Brachycera
6 Ichneumonidae
13 Braconidae

II-1:

20 sm. nematocera
4 micro-nematocera
19 Brachycera
2 Ichneumonidae
20 Braconidae
2 Cicadellidae

Madera
1968

tanglefoot

7 August II-2:

1 Cicadellidae
44 Sm. nematocera
2 micro-nematocera
17 Brachycera
3 Ichneumonidae
55 Braconidae
1 Spider

II-3:

1 Cicadellidae
35 Sm. nematocera
1 micro-nematocera
5 Brachycera
3 Ichneumonidae
23 Braconidae

II-4:

1 Cicadellidae
63 Sm. nematocera
4 micro-nematocera
5 Brachycera
3 Ichneumonidae
19 Braconidae

II-5:

1 trichoptera
17 Sm. nematocera
27 micro-nematocera
6 Brachycera
14 Braconidae
16 Ichneumonidae

Maclean
1968

Tanglefoots

7 August II-6:

13 Sm. nematocera
7 micro-nematocera
17 Brachycera
19 Ichneumonidae
50 Braconidae
2 Sm. spiders

14 August I-1:
(note: 7 Days)

58 Sm. nematoceran
5 micro-nematoceran
6 Brachycera
2 Ichneumonidae
7 Braconidae

I-2:

25 Sm. nematocera
1 micro-nematoceran
6 Brachycera
24 Ichneumonidae
5 Braconidae
8 Sm. spiders

I-3:

12 Sm. nematocera
4 Brachycera
2 Braconidae
10 Ichneumonidae
2 Sm. spiders.

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1968

Tanglefeets.

4 August I-4:

19	Sm. nematocera	
2	micro-nematocera	
5	Brachycera	
2	Braconidae	
2	Ichneumonidae	

I-5:

45	Sm. nematocera
4	micro-nematocera
6	Brachycera
5	Ichneumonidae

I-6:

24	Sm. nematocera
3	micro-nematocera
24	Brachycera
4	Braconidae
4	Ichneumonidae
1	tenthredinid larva - orange; 10mm.
1	Spider

14 August II-1:

1	Cicadellidae
74	Sm. nematocera
1	micro-nematocera
5	Brachycera
16	Braconidae
1	Ichneumonidae

Macleod
1968

Tanglefoots

14 August II-2:

124 Sm. nematocera
2 micro-nematocera
9 Brachycera
39 Braconidae
10 Ichneumonidae
1 Spider

II-3:

78 Sm. nematocera
3 micro-nematocera
3 Brachycera
11 Braconidae
6 Ichneumonidae

II-4:

157 Sm. nematocera
5 micro-nematocera
4 Brachycera
9 Braconidae
2 Ichneumonidae

II-5:

1 Saldidae
1 T. enigmaticus
1 Brachycera
1 micro-nematocera
8 Sm. nematocera
8 Ichneumonidae
8 Braconidae

Mochea
1968

Tanglefoots

4 August II-6:

17 Sm. nematocera
17 micro-nematocera
4 Brachycera
6 Braconidae
29 Ichneumonidae
81 + micro-spiders.

19 August I-1:

1 Sm. nematocera
1 micro-nematocera
1 Brachycera
1 Braconidae
7 Ichneumonidae

I-2:

9 Sm. nematocera
6 Braconidae
6 Ichneumonidae
2 Spiders

I-3:

4 Sm. nematocera
2 Braconidae
9 Ichneumonidae

I-4:

8 Sm. nematocera
2 Braconidae

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1968

Tanglefoots

19 August I-5: 18 Sm. nematocera
1 Brachycera
1 Ichneumonidae
1 Braconidae

I-6: 5 Sm. nematocera
2 Brachycera
1 Ichneumonidae
8 Braconidae

II-1: 4 Sm. nematocera
2 Brachycera
2 Braconinidae

II-2: 2 Sm. nematocera
15 Braconidae

II-3: 2 Sm. nematocera
1 Ichneumonidae
3 Braconidae

II-4: 45 Sm. nematocera
1 Ichneumonidae
7 Braconidae
1 Sm. spider

Macher
1968

tanglefoots

19 August II-5:

1 Ichneumonidae
2 Braconidae

II-6:

1 Sm. nematocera
1 Brachycera
3 Braconidae
3 Ichneumonidae

26 August I-1:

89 Sm. nematocera
1 micro-nematocera
20 Braconidae
15 Ichneumonidae
2 Sm. spiders

I-2:

63 Sm. nematocera
1 micro-nematocera
2 Brachycera
6 Braconidae
2 Ichneumonidae
7 v. sm. spiders

I-3:

1 Dytiscid beetle
39 Sm. nematocera
25 Ichneumonidae

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1968

Tanglefoots

26 August I-4:

101 Sm. nematocera
1 Ichneumonid
9 Braconid

(note: this board was predated by a larkspur, but in most cases part of wing remains to identify as Sm. nematocera.)

I-5:

72 Sm. nematocera
1 Ichneumonidae
8 Braconidae

I-6:

53 Sm. nematocera
1 micro-nematocera
1 Brachycera
18 Braconidae
1 Spider

6 August II-1:

20 Sm. nematocera
1 Ichneumonidae
10 Braconidae

II-2:

44 Sm. nematocera
2 Brachycera
2 Ichneumonidae
21 Braconidae

Macher
1968

Tanglefoots

6 August II-3: 23 Sm. nematocera
1 micro-nematocera
28 Braconidae

II-4: 104 Sm. nematocera
2 Ichneumonidae
6 Braconidae

II-5: 6 Sm. nematocera
1 Brachycera
11 Ichneumonidae
2 Braconidae

II-6: 12 Sm. nematocera
1 micro-nematocera
5 Ichneumonidae
16 Braconidae
60± micro-spiders

S. MacLean

1968 - 1969

Journal:

1969 Barrow, Alaska

MacLean
1969

Journal

3 June

Seattle to Fairbanks to Barrow, Alaska

Arrived in Fairbanks ca. 0945. Went out to the J.A.B. with Pitelka, then returned to airport and left for Barrow at 1715. In flying over Barrow, noted that nearly all of the ground that has been exposed was covered with fresh snow. When we landed it was 21° F. and snowing. Saw no Jaegers or owls in our approach. Spent the evening in Barrow.

4 June

Barrow, Alaska

Below freezing all day, with frequent snow fall. Spent the day dealing with personal matters and moving into the lab. Dave Norton reports that there were quite a few alping in the area on the 1st, but that nearly all of these have gone. He described a rufous-necked sandpiper that he had seen.

5 June

Barrow, Alaska

Weather the same, showing no sign of changing. Checked out some field clothing and B.S.'s. The weather suddenly cleared around dinner time, and in the evening Dave Norton and I made a circuit of the area. Britton's area was

Machesa
1969

Journal

(5 June) about 25% exposed, and there we saw ca. 4 sanderlings, 2 alpina, and a flock of 15 ± turnstones. No display activity. Proceeded on to Voth-Lakeeater area, then down the full length of Gasline Ridge. Area is 99+% snow covered. Only birds - occasional longspur on small exposed spots. Exposed areas showed no sign of lemming utilization, and no jaegers or owls seen. I think it is time to back off of predictions of a high. In all - the tundra is late-May in appearance; a markedly late year thus far.

Returned to write notes and more B.S..

the snow is compact but not thick. Some of it is obviously the result of recent snowfall. If the good weather holds much tundra could emerge tomorrow.

6 June Barrow, Alaska

Awoke to clear weather, but as we ate breakfast a thick fog settled in, and the temperature remained below freezing. Later the fog rose to a high overcast, but the temperature never rose above freezing. Some snow loss via sublimation, but no melt.

Tried to pass time in the morning. Uriel Sabriel came in on the morning

MacLean
1969

Journal

(6 June) plane, and after lunch Dave, Uriel, and I tried to arrange to co-ordinate our shorebird nest-finding and robbing activities. Our forced cooperation may be productive.

Dave, Larry Hoar (Salriel's assistant), and I made a tour of the area - via Beach Ridge to Elson Bluffs. Even there, very little exposed ground and only buntings, longspurs, and turnstones. Went back to Britton's area and there found a flock of ca. 20 alpina as well as ca. 30 turnstones, 2 alba, 2 Pluvialis. Collected 3 alpina ± at random, and 2 of these had bands placed by Soikkeli last year! (See species account.)

No owls, no jaegers, and little sign of lemmings.

Not much point in going out in the evening, and so it was devoted to beer and conversation.

7 June

Barrow, Alaska

Another day as before - temperature never rose above freezing. Killed time for most of the day. After dinner Dave, Bjorn Christiansen (Dave's assistant), Uriel, and I took a weasel south of

Machea
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Journal

(7 June) the village to check the bluffs. Saw 2 pusilla in ponds in the village, and the others saw a strange thrush-like bird. Below the village the wind was blowing, snow was flying, and a fog created near-whiteout conditions. No birds.

8 June

Barrow, Alaska

More cold weather; no significant melt. Walked into town - saw turnstones and 2 alpina feeding along the edge of the ocean. Walked back, and didn't see anything (walking into the wind). Sat up until the early hours of the morning exchanging B.S.. Dave Hawes arrived from Berkeley today.

Tundra conditions are late-May; there is virtually no exposed ground. It is remarkable that both rs. longspurs in the Drum area and alpina on Soikkeli's area - the only areas that are at all exposed - the birds that are there are those that belong there - i.e., were banded last year. This suggests that the birds from adjacent areas are someplace nearby, waiting for their areas to open up.

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Journal

9 June

Barrow, Alaska

Awoke to find that the weather has broken. South wind, warm, sky clearing, and snow melting. And it kept getting warmer. Went out with Hawes right after lunch. Joined Dave and Bjorn on Britton's Area. There saw sanderlings feeding quietly; alpina, bairdii, and pusilla all displaying; melanotos - both sexes - present; red phalaropes flying about; saw several westerns and Norton saw a fuscicollis; both golden and black-bellied plovers; still lots of turnstones. And that is just the waders. Also saw long-tailed and pomarine jaegers, short-eared owl, old squaws, pintails, a white-fronted goose, lots of savanna sparrows, a redpoll ..... in other words, things broke loose. Every bit of exposed ground has alpina and pusilla - usually displaying.

The amount of exposed ground increased noticeably during the afternoon, but is still limited. A good stretch along the west side of the gas well road, where the melt is accelerated by dust blowing from the road, a little

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Journal

(9 June) around the Voth area, still not enough on Village Ridge to sustain activity.

Spent the evening getting it all down in the notes and processing the day's impressive haul of specimens.

10 June **Barrow, Alaska**

Weather very warm again. Went out with F.A.P. and Hawes in the A.M.. Stopped at Britton's area. Fewer birds than yesterday, the flocks having dispersed, but lots of activity. Frequent aerial displays of alpina, bairdii, pusilla. Sanderlings still there. Both red and (at least 1) Northern Phalaropes. Redpolls again very numerous - probably more so than longspurs.

Moved up the road to Beach Ridge, so. of F.A.A.. There we saw first alpina nest-cup display of the year. Pectorals came by in a flock of ca. 6; I collected 2 ♀♀ and 1 ♂. Also collected a mauri for Norton. At this site saw both flocks and apparently territorial pairs of alpina and pusilla.

We made predictions, backed by 6-packs of beer, of when the first sandpiper eggs would be dropped: Bjorn - Wednesday (tomorrow); Dave and

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Journal

(10 June) I - thursday; FAP - Friday.

After lunch went out to drum area to help Custer place some longspur traps. Saw little exposed ground there, but pusilla and bairdii were quite active - displaying and frequent chasing - over what was open. Drove out to Gasline Ridge and back to beach ridge. In both places not much exposed ground. Both had dispersed pairs of alpina and bairdii. The tundra still looks like the 1st of June, although the snow has become very soft and wet. Could still drive right across North and South Meadow Lakes.

In the evening put up a ♀ Wilson Warbler that I collected in the Drum area this afr, then took a shower and wrote field notes.

In Britton's area and southward the melt is getting down to low-polygon troughs and other low-lying sites, and more lemming sign is being revealed. Right now it looks like a good pre-high.

11 June Barrow, Alaska

Warm weather again. Went out with FAP, Hawes, and Bill Berry in

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Journal

(11 June) the morning. Dropped Bill off to sketch shorebirds in Britton's area. Four Buff-Breasts flew in and performed for us. alpina, bairdii, and pusilla were more dispersed and displaying actively. Was again impressed by bairdii and pusilla displaying over areas only slightly exposed, as if to establish territorial claim, and then landing to feed elsewhere.

Walked up to Cake-eater and back. There is quite a bit of ± continuous exposed ground, now. Still small flocks of alpina, while others look as if about ready to lay eggs. Both bairdii and pusilla are abundant. Saw at least 5 white-rumps, and several small flocks of pectorals. 2 pomarine jaegers - 1 of these melanistic.

In the afternoon a very heavy but warm fog settled in. took Bill and Hawes to Britton's area, then went out to low bluffs just north of Footprint Lake with Tom Cade and his son. The snow cover there is extensive, although the snow is very slushy. Struggled through it to collect 7 longspurs for tom-todo pesticide analysis. Returned to low, wet area south of FAA to collect red phalaropes for the same purpose (took 6) and

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Journal

(11 June) pectorals (took 2). Activity was depressed by the fog. Saw another white-fronted goose - they are relatively common this year. Returned to pick up Berry and Hawes, haul out a ski-do that was buried in slush, and back to camp.

Went in to town in the evening.

12 June <u>Barrow, Alaska</u>

Another warm, comfortable day. Spent the morning writing several letters and field notes. After lunch went out to Britton's Area. Watched a full nest-cup - copulation sequence with Bill Berry. (↑ in <u>bairdii</u>). Shorebirds have pretty well sorted out territories, so that aerial display activity is down. They have reached the nest-cup stage; there are sham cups all over Britton's Area. Began censusing <u>Lemmus</u> winter nests: 1 of 4 predated. That has a pregnant ♀, only partially consumed.

Went to the movie in the evening, then sat down to plan seasons activities in insect studies. The thaw is still not deep enough to begin berlese sampling for <u>Pedicia</u> larvae. I plan to supplement the larvae sampling, tanglefoots, and emergence traps with some laboratory

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Journal

(12 June) and field exclosure studies of adult survival.

13 June Barrow, Alaska

Spent the morning censusing Lemmus nests in Britton's area for predation. Predation was high - ca. 1/3 of nests. (Later Dick Andrews and his assistant reported capturing to Mustella rixosa by hand near the new Cake-Eater.) Hawes assisted in this. Tom Custer caught a live sub-adult Dicrostonyx under some junk in Britton's area.

In the afternoon went out across Family Lagoon creek (Voth crossing) to look at newly exposed area there. A number of bairdii singing continuously. The only shorebirds actually occupying the area were a few melanotos. Collected an actively displaying ♂, and he topped 100 g! Caught a live ♂ Lemmus for Hawes which also topped 100 g.. Heard a displaying Dowitcher very nearby, but couldn't actually see it.

Pitelka and Custer took the vehicle in the evening, so I stayed in to catch up on field notes.

14 June Barrow, Alaska

the first Ranunculus of the year -

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Journal

(14 June) suddenly all over the place. Pitelka took the weasel out to his plot, so Bill Berry and I walked out to the Beach Ridge, so. of F.A.A.. the fog was very heavy and shorebird activity was virtually nil. Spent the morning checking lemming nests for predation. Again - predation was quite high, including 1 Longspur hauled into a lemming nest and consumed. A pair of turnstones is nesting up on top of the ridge - they attacked a passing parasitic jaeger - but I did not find the nest.

After lunch drove out Gaswell Road. Let off Bill across Voth Crossing, then Dave Hawes and I looked at lemming nests in Voth Area and across Voth Crossing, East of Road and North of Lewellyn's Road. In both places, the heavy predation level holds. Saw a few cases of pectoral display, but not much. Bairds again very noisy, including one chase of 5 birds. Saw a few more jaegers today, but still not many, and no territorialism.

It is going to be very interesting to see if the lemmings can rise to a peak after suffering this kind of predation - apparently just as the increase was getting going in high gear. There is

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Journal

(14 June) a great deal of sign, but the tundra is not decimated as after a high - hence, the nutrient - recovery cycle has not been 'completed'. If the lemmings fail to rise, the n-r hypothesis is in trouble.

Spent the evening - another very warm one, with a hard rain shower - in Barrow.

Forgot to mention - on the way in from nest - checking this afternoon Dave and I took the first sod-samples of the season - 8 from a polygon trough system on the Beach Ridge, 30. of Fall, and 8 from the flat 150 m. WNW.. The soil thaw is progressing rapidly.

15 June Barrow, Alaska

Very warm again. Checked under the berlèses and found a good catch. One core has all 3 species of Tipulidae. Next caught up on field notes.

Spent the afternoon in town, and, since the water in Village Lagoon went over the dam and washed out the road, the evening as well. Heard bairdii displaying right over Barrow.

16 June Barrow, Alaska

Rode back to camp in the man-haul in the morning, and continued my

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Journal

(16 June) interrupted night's sleep. Made it up a second time to discuss insect plans with Pitelka, then out to collect birds. Went out Gaswell Road and walked over to southwest extension of Gasline Ridge. Again, bairdii was the most active displayer. Collected 1 of these. Saw a number of ♂ melanotos and no ♀♀. Very little display. Collected 5 ♂♂. A number of apparently unmated alpina in the area, as well as territorial birds. Collected 4. Saw several mauri displaying. Phalaropes were very abundant. Also .... a territorial Pomarine Jaeger.

Drove into weigh and catalog the carnage before dinner. In the evening a thick, cold fog came in so I stayed in to wash clothes and write notes.

Found one lemming nest today with the remains of 12 crania - high for the year.

17 June

Barrow, Alaska

Out early with F.A.P., Dave, Bill, to see our Traplines I & II. It was foggy, with a cold NW wind. Lemming sign on Gasline Ridge is like other places - limited to the low-lying sites. Spent most of

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Journal

17 June

the morning looking for lemming nests between the traplines. Not too many, and the same level of predation as other places. 12 of 13 predated nests had but 1 Lemmus in it; the other had 2.

Saw maur: displaying on South side of the ridge, and FAP saw a fuscicollis in the spot which they seem to occupy each year. Pectorals are there, but saw only ♂♂ and very little display. Found a 1-egg redpoll nest in an old longspur nest, relined with Salix arctica 'cotton', right on top of a raised polygon on the ridge. Beautiful, blue egg.

In the afternoon the wind has shifted to the East and increased, and it was cold. Went out into the Drum area to try to find nests. Pusilla are uncommon there saw only 3 pairs. Bairdii are more common - still displaying and chasing very actively. Found one spot where a bairdii kept sitting in an empty cup. Localized a bairdii and a pusilla nest, but found none.

In the evening went out with FAP and Dave; as they checked traplines I & II I took the second set of sod samples - 8 from a shallow low

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Journal

(17 June) polygon trough system near Lewellyn's study area East of Gaskell Road and South of Family Lagoon Creek, and 8 from flat, saturated area in the east drainage of Family Lagoon Creek. Returned to put these into extractors and begin sorting the prior set.

18 June

Barrow, Alaska

Up early and out with Dave. As he checked lines I & II I walked over to Village Ridge with Don Kangas to try to find the ponds that Jaap Kalff used in his Ph.D. study. Can't be sure, but I think we found them. Not much bird activity around Village Ridge, but saw evidence of a pair of turnstones, golden plovers, and both pusilla and bairdii by the Voth area. Not enough time to find the nests, as Dave had to return the weasel. Back to the lab to check Berlese catch, put up a ♀ phalarope for AMNH, and write notes. A thick fog came in, so I passed up further field work to clean up and spend the evening in Barrow.

19 June

Barrow, Alaska

Came in with the manhaul and retired for a bit more sleep. Wrote notes and processed trapline specimens. Ar

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Journal

(19 June) 1400 went out with Sigrid to a nest in the Eskimo village cemetery which he is giving in trade for a pusilla nest which he took yesterday. Still 3 eggs. Spent the rest of the afternoon working around South Salt Lagoon looking for nests. Found 2 bairdii and 2 pusilla - all with 4 eggs.

In the evening went into the Drum area to look for nests. Found a 4-egg pusilla, and flushed several others. Drove out to Sigrid's nest in the cemetery; now 4 eggs, so I took the eggs and both adults.

20 June

Barrow, Alaska

Went out with Dave Hawes and Tom Schwan to Gasline Ridge. Tom found a 1-egg baird nest just west of the gasline. As they took in traplines I & II I wandered south to collect. Took a pair of dowitchers and a ♂ melanitos. Westerns acting up on Gasline Ridge again - at least 5 birds. Drove back to Britton's area so Tom could check nests. As he did I found a new 5-egg longspur nest across (East) from FAA.

After lunch Dave and I went out to traplines IIIA-B to check lemming nests. Not too many there - about the same

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Journal

(20 June) predation level. Saw a least weasel sticking his head out of a hole. After a hilarious (hysterical?) chase, in the middle of which I found a 4-egg phalarope nest, we succeeded in catching him. Drove to vicinity of traplines IV A-B to take soil samples. 8 suplicate samples of last year - flat North of the traplines - exactly. The other 8 from a low polygon trough system ca. 100 m. west. Next drove across Voth Crossing. Checked the 1-egg bairdii nest - still 1. Went on to collect a ♂ melanotos, then returned to lab to process birds and put new samples in extractors. Spent the evening in Barrow at the Nalakatuk.

21 June Barrow, Alaska

Again - in with the manhaul, and to bed for more sleep. Up to empty berlese catch; the polygon system was loaded! Drove out to check bairdii nests by line III B - still 3 eggs and apparently done. On to Gasline Ridge to find the 1-egg nest now empty. Returned the weasel and went out into the Drum area. Two bairdii nests, found by Tom Schwan with 3 eggs each yesterday, have 4 eggs today. Trapped and banded one adult from

each of these. Checked a baird and pusilla nests found by Custer with 3 and 2 eggs, now 2 and 2! In general, shorebird activity in the Drum area has picked up, but is still not high. After dinner lay down to rest and couldn't get up again. Felt like I had a bug of some sort.

The number of jaegers in the area has picked up, but I have a feeling that a great deal of nest predation is due to least weasels. We know that there are many weasels and few lemmings in the area - they have to be eating something. Safriel is putting protective wire cages over his sanpiper nests. If predation continues it must be weasels.

22 June

Barrow, Alaska

Even windier today. Spent the morning sorting 500 samples. Went out to the Drum Area with Dave to collect bairdii nests. (See species account.) Checked tom Custer's nests: the pusilla is now empty; the bairdii still 2 eggs and incubating. The incubating bird gave a very well developed distraction display, so I don't think it is a recent nest.

Went into Barrow and spent the evening getting completely caught up on

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Journal

(22 June) my field notes. Saw bairdii still displaying
rights over Barrow village.

23 June Barrow, Alaska

In on the mail-boat. Decided to put
out tanglefoots for a 2-day run to de-synchronize
with soo samples, then go to 3-day periods, so
I cleaned and prepared a set of boards. Sorted
the remainder of the last set of soo samples,
then went out with Dave. Found a large
number of new pectorals in and around
Central Marsh. Collected 4 of these. At
tanglefoot site II put out the boards and
collected 8 soo samples from Central Marsh-
sites II-5 & II-6. Back to site I (Micro-
Met). There we put out boards and did a
census of lemming nests. Collected a pair
of pectorals near there. Drove into
Barrow soo samples and process
specimens, then went into Barrow to
spend the evening at the Nalakatuk.

24 June Barrow, Alaska

Still a bitter, cold wind. Spent the
morning sorting soo samples and cleaning the
next set of tanglefoots. After lunch Dave and
I went out to census lemming nests around
traplines IX and X. Lots of sign there, but few
nests. Found a flock of ca. 30 melanotos - most
or all ♂♂; collected 5. Also collected a

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Journal

(24 June) ♂ pusilla for Berg to draw. Came in to process specimens and sort more sod samples. The sample that produced 16 Pedicia larvae via berlese gave up 4 more in hand sorting: a record total of 20!

Spent most of the evening writing notes and letters. Been forgetting to mention the tundra ponds are covered with films of Collembola - both dark and light - more than I've seen in other years. Due to nutrient release? Lots of food for Pedicia - wonder if there will be more of them this year. Lemmings - nutrients - Collembola - Pedicia - sandpipers: there's the link.

25 June

Barrow, Alaska

Up early (!) and out with Dave for trapline check. Spent the morning looking for lemming nests on Beach Ridge east of Micro-Met, and reinforced my belief that, by golly, you see things when you get out and walk. In addition to lemming nests - many predated - found a melanotos nest with 4 eggs, a bairdii nest with 2 eggs, and 3 and 6 egg longspur nests. Many bairdii along the ridge.

In the afternoon greased up some tanglefoots and went out for the first change. At site I looked for more

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Journal

(25 June) lemming nests while Tom shot 3 longspurs. took 25 lousy minutes to drive to site II! Made the tanglefoot change. Found a 4-egg melanotos nest by stake 1.8 of trapline VI; collected ♀ and all eggs. On the way back stopped by the earlier melanotos nest, but the ♀ was not seen in 40 minutes of watching, so we went in to process prior specimens. Went out after dinner and shot this ♀ and took the clutch.

Saw a Mustela erminea under the all-sky camera site in the morning. Saw 2 large shit-piles nearby; this convinced me that the large piles with many skulls, as seen in 1965, belong to this species rather than to vixen.

Late in the evening, after processing last ♀ melanotos and eggs, walked into Barrow and wrote field notes there.

26 June Barrow, Alaska

Missed the departure for trapline check by trying to get a replacement boot, so I spent most of the morning ~~too~~ writing a letter, finishing sod-sample sorting, and working around the lab. Walked out with Hawes at 1:00. Harvested a melanotos nest that he found this

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Journal

26 June) morning, then looked for lemming nests around ACS. Found more sign of M. erminea. Shorebirds were pretty quiet.

In the evening went out for 500 samples: 8 from flat east of traplines IX & X, corresponding to last year's samples; 4 from flat just west of tanglefoot sites I-1 - 3; and 4 from polygon trough north of tanglefoots I-5 & I-6. Beautiful, clear evening. We spent some time watching a ♀ melanotos by Micro-Met; I think she is laying yet.

27 June Barrow, Alaska

The morning talking with Science reporter Luther Carter, then putting nest onto new emergence traps. After lunch Frank+I took Carter out to the gaswell. We meant to have a look at the experimental pipeline, but were stopped by 'Jogen's folly' - the deep drainage channel in Footprint Lake. Spent most of the afternoon standing by the weasel and talking about NARL, oil in the Arctic, and any and all related topics. Many pectorals and phalaropes - including northerns - in wet parts of Footprint lake.

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Journal

(27 June) In the evening went into Barrow to play basketball.

28 June Barrow, Alaska

Not exactly a hyper-productive day. Sorted 300 samples, counted and cleaned the first set of tanglefoots and, in the evening, went out to change tanglefoots. Another beautiful night. Found 2 4-egg bairdii nests on South slope of Beach Ridge. A fair catch on the boards, but no Tipulidae.

29 June Barrow, Alaska

Finished sorting 300 samples, then went out for a new set. More warm weather, and lots of adult insects - although I saw no Tipulidae. The tundra is quite dry, considering the time of year. Beach Ridge is very dry.

Took 8 cores from Central Marsh, between traplines VII & VIII, 8 from low polygon trough system South of Imikpuk, NW of the road across Beach Ridge. The results of 300-sampling thus far indicate that last years' most productive emergence traps - by lines IX & X - will be less productive than the traps by tanglefoots I-1, 2, and 3.

Returned to put new samples into

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Journal

(29 June) extractors then begin counting tanglefoot. Went into Barrow and wrote field notes in the evening.

The ice is completely gone from North Meadow Lake, but still covers much of Imikpuk and Family Lagoon.

30 June Barrow, Alaska

Another beautiful day .... which, unfortunately indicates that I should stay in until the emergence traps were completed. This took the morning and into the afternoon. Made the startling discovery that last year's traps were only 88 cm. on a side inside distance, or 0.7744 m^2. This will boost the catch/m^2 a little - about 1/3. When the vehicle returned in the afternoon Dave and I delivered 6 traps to insect site I. Pedicularis lanata is out there, now.

In the evening Dave and I sorted 800 samples, then went out with Tom Schwan for trapline check. Delivered 6 emergence traps to site II and censused lemming nests around traplines V & VI - much sign, heavy predation - before returning to eat and write notes.

Dave Norton reported seeing adult Tipulidae - I think along Gasline Road.

Am moving across the hall - into the

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Journal

(30 June) darm room next to Pitelka to provide a sound barrier for him. Will be with Tom Custer.

1 July

Barrow, Alaska

Warm weather and a Southwest wind which brought occasional rain showers. Went into Barrow for crane fly paint: red, blue, purple, white. Completed counting and re-greased tanglefoots. Immediately after lunch Dave and I went out with another load of emergence traps and set up all 14 traps (4 functioning as enclosures) at site I. Changed tanglefoots there and at site II, then gave up and came in out of the rain.

In the evening the weather improved. Counted some tanglefoots, then walked into town for the evening.

This afternoon - a large flock of ca. 60 melanotos and 40 ♀ red phalaropes. Collected 3 pectorals - they have given up all thoughts of sex; cervical fat is way down and molt has begun.

2 July

Barrow, Alaska

Out early with Dave to set site II emergence traps. More west wind and Bering Sea fog and mist. Birds were very quiet and scarce. All emergence traps are now functional.

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Journal

(2 July) Slept a while in the afternoon to try to kick a threatening cold, then sorted sod samples until the weasel returned. Went out to begin the second series of sod samples - Beach Ridge trough and flat west of Gaswell Road, South of F.A.A. then continued up Gaswell Road to north end of Footprint Lake looking for pectorals. Found none.

The tundra is very dry. Don't see how the berlèses can remove much water from the sod samples; they are nearly dry already. Saw adult ♂ Pedicia and Tipula where we took the sod samples. Brought a few into the lab to experiment with marking.

In the evening counted tanglefoots, then began sorting the new set of sod samples. Walked into town late to write field notes.

3 July

Barrow, Alaska

Went out with David down Gaswell Road looking for pectorals. Finally found a small flock and some lone birds on Footprint Lake, but they have pretty well cleared out of the area. Had to work to collect 5 ♂♂ and 1 ♀.

In the afternoon we went out

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Journal

(3 July) to check the emergence traps - nothing yet - and look for lemming nests on Beach Ridge. Ended up just walking around enjoying the tundra. Found a few crane flies - all 3 species. Brought these in to try marking with paint spots. Did this after dinner, then counted, cleaned, and prepared tanglefoots, wrote notes, and early to bed.

4 July

Barrow, Alaska

Beautiful, warm weather. Dave and I went out to change tanglefoots and check emergence traps. Only a few crane flies on the boards and none in the traps, yet. Spent the rest of the day in Barrow at the 4th of July celebration.

5 July

Barrow, Alaska

In with the manhaul and back to bed to try to avoid a cold. Clayton White came in from Amchitka last night. Spent some time talking with him and, afterlunch, he, Dave, and I went out to check emergence traps. It was cold and foggy today - not at all pleasant. Used mud from the road to completely seal up some of the emergence traps. Our first catch - a ♂ Pedicia from site I.

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Journal

(5 July) Returned briefly, then went out to SE Coth area to take 500 samples.

In the evening placed these ♂ in the extractors and began sorting the others.

It appears that our paint may be toxic to crane flies; 4 of the 5 marked with a spot in the evening were dead the next morning. I need a large sample to experiment with, so Dave and I opened the site II beer-can traps.

6 July

Barrow, Alaska

the pleasant weather returned.

Dave and I went out to check and finish sealing the emergence traps - caught a ♂ Pedicia in trap by traplines IX & X. Spent most of the day checking lemming nests between the two insect sites. Found quite a bit of Dicrostonyx activity - including 6 predated nests - on the Beach Ridge. In total, we looked at 114 nests today - quite low predation level in Central Marsh and north of Beach Ridge, higher on the ridge.

In the evening I counted the site I sticky boards, then went into town to write field notes.

Dave collected the incubating ♂ Northern Phalarope from Central Marsh.

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Journal

6 July

the first shorebird nests are finally hatching - very late! 5 July minus 20 days = 15 June for the first completed pusilla clutch, or 11 June for the first ♀♀; and this is based on the large sample of nests amassed by Safriel and Norton.

7 July

Barrow, Alaska

In the morning I counted the site II sticky boards, then cleaned and re-gooped for the change. Went out in the afternoon to change boards and check emergence traps. Took along my camera; at a Beach Ridge bairdii ♂ nest I had Dave wrap me up in a blanket next to the nest and walk away. I took a series of pictures from 1 ft. away! Tried the same at a red phalarope nest, but the bird would not get back on. Returned and went into town for a party at Felder's in the evening.

8 July

Barrow, Alaska

Spent much of the morning sleeping off the party of the previous evening. Made a trip to the airport to pick up some freight. After lunch went out with P. tolka and Hawes. Spent some time photographing crane-flies on the tundra. At the site II emergence traps we made

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Journal

(8 July) a test which revealed the problem with last year's emergence trap data. Dave put some craneflies in a trap; after a while, I looked for them. He put in 4 ♂♂ and 1 ♀ Pedicia. I found 1 ♂ Pedicia! Decided that we will have to clip the vegetation from the traps to remove hiding places.

In briefly, then out to traplines IV A-B to take a few of sod samples. It was there, as everywhere very, very dry. Returned these to the lab, then out to lines IX & X to begin clipping the emergence traps there. In the process, Dave found Pedicia that he otherwise would have missed!

A very elegant cocktail (beer) session with refreshments by Pitelka with George West and the Norton crew. After dinner put the new sod samples in the extractors, wrote notes, and into town.

9 July Barrow, Alaska

Cold and overcast today. In the morning I counted tanglefoot boards and arranged for 2 camping-room boys to assist in clipping emergence traps this afternoon. Right after lunch Dave, Tom Schwan, the 2, and I went out. Miserable, cold job. We did all of the site I's

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Journal

9 July

and II 9 & 10, and checked the other site II's. Judging by the tanglefoots and by what we found in the traps, we may have caught this just in time.

10 July

Barrow, Alaska

Cold again. First I finished counting the tanglefoots. Wrote the shorebird and insect section of the June progress report and photographed a Bill Berry cartoon. Right after lunch Dave, Tom Schwan, and I went out to finish the clipping and change tanglefoots. At emergence trap (enclosure #4) in Central Marsh we found all 4 of the wing-clipped ♂ Pedicia - 3 alive and 1 dead. So they can live at least 2 days. Returned these to the enclosure.

In the evening I got started on tanglefoot counting, then went in to Barrow.

11 July

Barrow, Alaska

More cold weather - a cold July, thus far. Counted more tanglefoots and wrote letters, then went out with Tom and Dave for 500 samples and emergence traps. It just about takes the afternoon to check the 25 traps. The clipping helps - I'm sure we overlooked quite a few Pedicia in unclipped traps.

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Journal

(11 July) Put the new SOD samples in after dinner. There has been a big drop in both size classes of *Pedicis* larvae; all indications are that 1970 will be a poor year for *Pedicis* adults.

12 July *Barrow, Alaska*

I'm falling into a pattern: lab work (and sleep) in the morning, field all afternoon, Barrow in the evening. Today some unexpected mail - an offer of a 1-year job at the University of Montana - interrupted sorting of SOD samples. Emergence traps in the afternoon. In the evening one of the Disney people - Hank Schlosse - showed a nature movie re. a bobcat in Louisiana that he has produced. After that went into Barrow and took in the movie there.

Shorebird activity is about down to zero. ♀ phalaropes and ♂ pectorals have departed; other birds are with young and are pretty quiet. There has been an increase in *alpina* display - but I have the strange feeling it is being done by birds with young!

In the evening the weather suddenly improved. Saw a flock of 8 black guillemots flying north.

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13 July

Barrow, Alaska

took the boat up to camp to pick up camera and shotgun, then up to Nuvuk. the day was warm and beautiful. Saw many oldsquaws and quite a few guillemots on the water. the northernmost passerine bird in alaska - at least for a while - was.... a tree sparrow! Many nesting bairdii and some pusilla and turnstones there, and many snow-buntings. From the boat we saw 1 spotted seal, several ringed seals, and 4 bearded seals - and us without a rifle. On the way back saw 2 kittiwakes flying north. the warm weather suddenly turned to Bering Sea weather, and we drove home in a hailstorm.

14 July

Barrow, Alaska

Rain all day long. In the morning Dave and I drove out to the fertilizer plot with Arnold Schultz. We placed 3 sticky-boards on the plot and 3 on the adjacent control plot. It is very impressive out there - the plot shows extensive winter cutting and many nests. the adjacent controls show almost no cutting

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(14 July) and no nests. Pitelka has documented this systematically. The vegetation is much heavier, with much more moss and shallow active layer on the plot. Whatever the reason — cover, nutrients, nest material — the fertilizing has a real effect on the lemmings.

Spent the afternoon getting thoroughly rain-soaked in checking emergence traps and taking soo-samples. Our grandfather Pedicia, put into an enclosure on 8 July, is finally dead.

In the evening Pitelka gave a seminar on Microtines and lemming cycles. Afterwards I went into Barrow.

15 July

Barrow, Alaska

More of the same. Cold, foggy, Bering Sea type weather. Worked in the lab in the morning, emergence traps with Dave and Tom Schwan in the afternoon. Today I wrapped myself in a blanket next to the trapline VI Golden Plover nest, and I should have some good pictures of the ♀ incubating. The insect emergence has yet to get going in full — it appears that the cold weather may protract the period of emergence. If it is simply a matter of heat summation that would be the result.

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16 July

Barrow, Alaska

Fell behind on tanglefoots and had to count nearly the full set. Took all morning. After lunch we went out to change them and check the emergence traps — the best catch to date on both. In the evening I began counting these boards to avoid falling behind again. Pitelka was due to leave this evening, but fog kept the plane away.

17 July

Barrow, Alaska

Put up a Black guillemot brought in by Harry Brower, then counted tanglefoots for the rest of the morning. After lunch - seed samples and emergence traps. Pitelka managed to leave this evening. Celebrated by going to a movie in town.

18 July

Barrow, Alaska

More cold weather, with occasional snow flurries. Lab work in the morning, as the snow alternated with rain. In the afternoon the two tams departed. Dave and I drove out to the fertilizer plot to pick up the sticky boards there. Those from the plot were covered with Pedicia; those from the control plot have few Pedicia but more Prionocera. Suggestive, but it could be due to differences in timing of emergence.

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(18 July) Dave will take 500 samples there between the 3rd and 4th series — that will tell what is going on. Should be interesting. Not much in the emergence traps.

In the evening I lay down for a short nap and couldn't wake up.

19 July Barrow, Alaska

Begin 2nd run of the lemming traplines. Dave and I spent the morning setting our lines XI & XII, I & II. Very little fresh sign - I don't expect much catch.

In the afternoon - what else - emergence traps and tanglefoots. Site II S.S. seems to be Done. If so, this has been a pretty poor Tipulid year. The 3rd 500 sample series - which begins tomorrow - will tell if more Pedicia larvae are entering their third year than last year.

Went in to Barrow, then out to shooting station, in the evening. Joe, Jr, Max, and I took the boat down to Dease Inlet and back in a cold fog. Didn't see any caribou - many Oldsquaws on Dease Inlet, a few flocks of King and Common Eiders, several flocks of Black Guillemots, and the

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(19 July) some of thick-billed Murres. Saw quite a few loons, including yellow-billed. Returned early:

20 July

Barrow, Alaska

Up in time for late breakfast. Went out to the traps with a Disney animal trainer - Mario somebody - and Dave & Edna. Cold and windy - we collected lots of negative data.

After Sunday dinner and the movie I put in the new 500 samples, then went up to Birkenik.

21 July

Barrow, Alaska

Spent the morning counting tanglefoots, then went into Barrow to go shopping. Returned in time for the emergence trap check - it really looks like the insects are just about done. Only a few traps are still producing. We took some old 500 samples back out to fill up old holes - replace our divots. In the evening I finished counting the tanglefoots and then went up to shooting station.

22 July

Barrow, Alaska

Dave and I had to move the lemming traps to lines 3a-b, and 4a-b this morning. No new sign there, either.

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Banding

21 July	001123	C. bairdii juv. - Micro. mes	- 10g.
	001124	C. bairdii juv - Micro-mes	- 11g.
	001125	C. bairdii juv - Camp	- 26g.
23 July	001126	C. bairdii juv - Dremarea	- 13g.
	001127	C. bairdii juv - Dremarea	- 13g.

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(22 July) In the afternoon — tanglefoot change (nearly clean!) and emergence trap check (1 ♀ Pedicia!). So this has really been a low crane-fly year — all species together, ∴ almost certainly weather-induced.

Put up another Black Guillemot after dinner, then caught up on field notes.

23 July

Barrow, Alaska

More cold West wind; I have never seen so much west wind in a summer. Tanglefoots and extra sleep in the morning. Emergence traps in the afternoon - 1 lonely ♂ Pedicia. 2 marked ♂ Tipula are more than one week old — that shatters one of my old ideas. The long life span buffers weather induced variation in insect emergence. Safriel seems to think that the bum weather has resulted in adverse feeding conditions for his pusilla, but Norton has seen no evidence for this in alpina or bairdii. It is certain now that the weather did not greatly protract the period of emergence, as I thought it might. This means we must enter another element into the control of emergence mechanism.

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(23 July) Spent the rest of the afternoon putting up another Black Guillemot, then counting tanglefoots. In the evening went out with Dave to take soil samples while he checked traplines. Returned - placed these in extractors - processed day's bird catch - and went to Jim Hume's seminar on beach processes. Finally went up to shooting station to write field notes.

24 July

Barrow, Alaska

Lines III A-B are cleaning up on birds - including Sabrisel's and Norton's marked sanpiper young. Processed these, then spent the rest of the morning beginning the task of packing up the equipment in the lab. Right after lunch Dave and I went out with Arnold Schulz for emergence trap check while he took some soil samples from isotope plot on the Beach Ridge. We assisted in this after checking the site II traps, then on to site I and in. It was cold again today, and the insects have still not gone to zero in the emergence traps. This year, in contrast to last, the emergence traps have caught significantly more ♂♂ Pedicia than ♀♀. The emergence of ♀♀ took place later in the season than that of ♂♂. These

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24 July

two observations must be related.

In the evening I has Dave assist Dr. Schulz sort grass from clip quadrats while Edna and I made the evening check of the traplines in a snowstorm! Returned the catch to the lab, drove up to shooting station, and broke a track on the weasel. I don't feel too badly - I went to the mechanic's shop today and told them I was going to break.

25 July

Barrow, Alaska

Dave and I got a truck to go out to pick up lines IVa-b and IIIa-b. Got our repaired (?) weasel back after lunch and went out to check emergence traps, change tanglefoots, and set our traplines V, VI, VII, & VIII. The persistent snowstorm and cold wind convinced us to forget about the latter. What a cold, miserable July this has been!

In the evening began counting tanglefoots, then out to Birknik and into Barrow.

26 July

Barrow, Alaska

Started out early to set out traplines. Half way out our weasel suddenly dies. Walked out to set VII and VIII, then in to camp. After lunch

	A.M	P.M.	Eve.
			count + prepare J's
thurs 3			
Fri 4		tanglefoots / Barrow → emergence traps	
Sat 5	Slept	Sealed emerg. traps Sod Samples	Barrow
Sun 6		Emergence traps - lemming nests	sticky boards change
Mon 7	sticky boards site II	emergence - sticky board change	Joe's
Tues 8	Slept	Emergence test - sod samples	
Wed 9	sticky boards	clip	
Thurs 10		finish clip	
Fri 11		Sod samples	
Sat 12			Bobcat film, Barrow movie
Sun 13	good wx Nuwuk		hail, rain. Barrow
Mon 14	Rain Fertilizer plot	Emergence sod samples	P's Seminar Barrow

✓ tues	15			
✓ Wed	16	Count →	tangles	
✓ thurs	17	pur up guill count tangles	SODS, emerges	P's dpt.
✓ Fri	18		tons' dpt. Fert. plot, emerges.	Slept
✓ Sat	19	traplines	tangles emerges	BRW
✓ Sun	20		Emerges	Movie - 300 samples - Birkwik
✓ Mon	21	Barrow shopping	emerges - Bivots	finish counting tangles, Birkwik
✓ tues	22	traplines	tangles, emerges	guillemot, nests.
✓ [illegible]	23			
thurs	24			Edna & J ahzeka traps. track
Fri	25	pick up lines	tanglefoots emerges - snow	Barrow
Sat	26	SEE VII & VIII	SEE U & VI emerges, SOD samples	tangles, laundry
Sun	27	tanglefoots	S.S - Seminar prep.	

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26 July

out with Ray Spalock - the problem was an ignition wire rotted in two. See lines V & VI and checked the emergence traps (found a ♀ Tipula). Returned and set out in the other direction to take 500 samples - and our repaired track came unrepaired. In for another weasel - out for the 500 samples, with our new weasel backfiring and belching like an angry dragon. (Quite a day, no?!)

After dinner put the 500 samples in, did some laundry, and counted one set of tanglefoots - not much on these - then went up to shooting station for the night.

27 July

Barrow, Alaska

Awoke to - what else - snow. Walked in for breakfast and a battle to get our substitute weasel going. Counted the second set of tanglefoots and wrote field notes, then worked on the Bare seminar I am to give tomorrow.